MINISTRY OF HEALTH OF UKRAINE
ODESA NATIONAL MEDICAL UNIVERSITY
Department of simulation medical technologies

Syllabus of the academic discipline «Medical practice. Simulation training»

Scope of the academic discipline	Total number of hours per discipline: 90 hours, 3 ECTS credits Semester: IX — X 5th year of study
Days, time, place of educational discipline	According to the schedule of classes Department of simulation medical technologies Odesa, Valikhovsky Lane, 3
Teacher(s)	Head of the department, Doctor of Economics, Doctor of Medicine, Associate Professor Oleksandr ROGACHEVSKYI Assistant of professor Olha YEHORENKO Associate professor, PhD Mykhailo PERVAK Associate professor, PhD Vasyl GLADCHUK Associate professor, PhD Igor SHEVCHENKO Associate professor, PhD Yuriy PETROVSKIY Assistant of professor Viacheslav ONYSHCHENKO Assistant of professor Dmytro KARAKONSTANTYN Assistant of professor Svitlana TRISHCHENKO Assistant of professor Hennadii CHEREMNYKH Assistant of professor Andrii DOBROVOLSKYI
Contact Information	E-mail: simmedtech@onmedu.edu.ua Consultations: from 14.30 to 16.30 every working day

COMMUNICATION

Communication with students of higher education will be conducted in the classroom (face-to-face).

During distance learning, communication is carried out through the Microsoft Teams platform, as well as through e-mail correspondence, Viber, WhatsApp, Telegram messengers (through groups created in Viber, WhatsApp, Telegram for each group, separately through the head of the group).

ABSTRACT OF THE ACADEMIC DISCIPLINE

The subject there is a procedure for providing emergency medical aid to the injured and sick and the implementation of practical skills acquired during the study of previous disciplines.

Prerequisites: builds upon and integrates knowledge acquired during the study of the previous disciplines: medical biology, normal human anatomy and physiology, pharmacology, hygiene, pathological anatomy, pathological physiology, emergency medicine, therapy, surgery and other clinical disciplines.

Post-requisites: improves theoretical knowledge and practical skills acquired during the study of previous disciplines. Improves the principles of applying knowledge in the process of further education and in professional activity.

The aim is formation and improvement of the ability to provide emergency medical aid to the injured and sick and the implementation of practical skills acquired during the study of previous

disciplines.

Task:

1. To improve the ability to conduct a physical examination of a patient.
2. Improving the ability to conduct a patient examination, in particular, ENT organs, mammary glands, the organ of vision, and the thyroid gland.
3. Formation and improvement of the ability to demonstrate the ability to perform practical skills: restoring the patency of the respiratory tract, basic cardiopulmonary resuscitation, defibrillation using a manual automatic defibrillator-cardioverter, installation of nasogastric and orogastric probes, digital examination of the rectum, examination of the rectum using a rectal mirror, digital examination of the prostate, clinical examination of the mammary glands, pleural puncture, palpation of the thyroid gland, examination of intraocular pressure (palpation), clinical examination of the organ of vision, clinical examination of the ENT organs, conicotomy, Heimlich reception, auscultation of the heart and blood vessels, percussion and auscultation of the lungs, palpation of the abdomen, physical examination of the patient, lumbar puncture.
4. Acquisition of knowledge about the main classes of drugs used in the provision of emergency care, based on relevant clinical and pharmacological principles.

Expected results:

As a result of studying the academic discipline, the student of higher education must:

To know:

- Anatomical structure of organs and systems in adults and children of different ages
- Know the methods of general examination. Concepts of palpation, percussion and auscultation
- Pathological changes in organs and systems in adults and children of different ages
- Physiological features of blood circulation and breathing in adults and children of different ages
- Indications and contraindications, complications, methodology, algorithm and technique of cardiopulmonary resuscitation in adults and children of various ages
- Pharmacokinetics, pharmacodynamics and side effects of drugs used in emergency care
- Algorithms and protocols for the treatment of patients
- Principles of medical ethics
- Concepts, indications, contraindications, technique, algorithm and complications of manipulations:

1. body temperature measurement
2. restoration of airway patency
3. basic cardiopulmonary resuscitation
4. defibrillation using a manual automatic defibrillator-cardioverter
5. registration of a standard ECG in 12 leads
6. temporary stoppage of external bleeding
7. primary surgical treatment of the wound, bandaging, removal of skin sutures, in particular in field conditions
8. applying a bandage, incl. in field conditions
9. installation of nasogastric and orogastric probes
10. transport immobilization
11. administration of medicinal substances (intravenous jet and drip, intraosseous), in particular in field conditions
12. provision of peripheral venous and intraosseous access
13. blood pressure measurement
14. bladder catheterization with a soft probe
15. clinical examination of mammary glands

16. pleural puncture
17. Larray's pericardial puncture
18. laparocentesis
19. bimanual examination of the pelvic organs of a woman
20. examination of a woman's genital tract in mirrors
21. external (Leopold techniques) obstetric examination
22. cricothyreotomy
23. Heimlich reception
24. pulse oximetry
25. assessment of pulse on peripheral arteries
26. auscultation of the heart and blood vessels
27. percussion and auscultation of the lungs
28. palpation of the abdomen

Be able to:

- Orientate yourself in the anatomical structure of organs and systems in adults and children of different ages
- Be able to conduct a general examination (palpation, percussion, auscultation, blood pressure measurement, etc.)
- Name pathological changes in human organs and systems
- Orientate yourself in the physiological features of blood circulation and breathing in adults and children of different ages
- Name the indications and contraindications, complications, methodology, algorithm and technique of cardiopulmonary resuscitation in adults and children of different ages
- Orientate yourself in dosages, pharmacokinetics, pharmacodynamics and side effects of drugs used in emergency care
- Determine the sequence of actions when providing emergency aid
- Perform the necessary manipulations
- Monitor the patient's condition after performing practical skills
- Provide psychological assistance to patients
- Solve deontological tasks related to professional activity
- Have professional communication skills

DESCRIPTION OF THE ACADEMIC DISCIPLINE

Forms and methods of education. The discipline will be taught in the form of practical classes (30 hours) and organization of students' individual work (60 hours).

Consultations are individual.

Teaching methods.

Practical classes: conversation, role-playing, solving clinical situational problems, practice and control of practical skills on simulation models and mannequins (according to list 5), passing simulation scenarios, solving test tasks.

Individual work: individual work with the recommended basic and additional literature, electronic information resources, individual work with the bank of Step-2 test tasks, preparation for practical classes.

Content of the academic discipline:

Topic 1. Emergency conditions in obstetrics and gynecology. Practical obstetrics. The scenario — based learning

Topic 2. Diseases of the organs of the digestive tract. The scenario — based learning

Topic 3. Cardiovascular diseases. The scenario — based learning

Topic 4. Respiratory diseases. The scenario — based learning

Topic 5. Diseases of the organs of the urinary system. The scenario — based learning
Topic 6. Pneumothorax. Hemothorax. Pleural puncture. The scenario — based learning
Topic 7. Chronic surgical diseases. The scenario — based learning
Topic 8. Emergency conditions. The scenario — based learning
Topic 9. Emergency conditions in pediatrics. Lumbar puncture in children of different ages. The scenario — based learning
Topic 10. Final lesson

List of recommended literature:

Main:

1. Surgery: textbook / O.Yu. Usenko, G.V. Bilous, G.Y. Putintseva. - 5th edition. - K.: VSV "Medicine", 2021. - 416 p.
2. Emergencies in the practice of a therapist and family doctor / under the editorship Yepishyna A.V. — ISBN: 978-966-673-122-0. Ukrmedknyga 2019 p. 380 pages
3. Emergencies in pediatrics: study guide (University I-II year) / R.I. Potsyurko, L.S. Leskiv, M.M. Monastyrska and others; under the editorship R.I. Rat — 6th ed., revised. and added Year: 2017, Number of pages: 200 + 2 color incl., ISBN: 978-617-505-557-1.
4. Pediatric Emergency Medicine, Second edition, illustrated clinical cases, © 2019 by Taylor & Francis Group, LLC / International Standard Book Number-13: 978-1-4822-3029-1 (Paperback) 978-1-138-34649-9 (Hardback). 436 pages.
5. Mechanical Ventilation in Emergency Medicine. by Susan R. Wilcox & Ani Aydin & Evie G. Marcolini. ISBN 978-3-319-98409-4 ISBN 978-3-319-98410-0 (eBook). https://doi.org/10.1007/978-3-319-98410-0/2019 . 122 pages.
6. Acute Medicine: A Practical Guide to the Management of Medical Emergencies, 5th Edition / David C. Sprigings (Editor), John B. Chambers (Editor) - ISBN: 978-1-118-64428-7. July 2017 Wiley-Blackwell, 784 Pages.

Additional:

1. Emergency situations in surgery (study guide) — L.M. Kovalchuk, K.M. Bobak, A.I. Bobak, V.V. Kyretiv et al., 2017
2. Anesthesiology, intensive care and intensive care: a study guide (University I-III) / A.A. Ilko - 2nd ed., revised. and add., "Medicine", Kyiv, 2018
3. The Complete First Aid Pocket Guide. by John Furst / ISBN 9781507208892 - Adams Media, 2018. 190 pages.
4. Manual of emergency medicine / editor, G. Richard Braen. — 6th ed. ISBN: 978-1-60831-249-8. May 23, 2011. 704 pages.

Electronic resources:

1. http://moz.gov.ua — Ministry of Health of Ukraine
2. https://www.cprguidelines.eu/ — European Resuscitation Council
3. https://www.c-tecc.org/our-work/guidance — Committee on Tactical Emergency Relief
4. https://zakon.rada.gov.ua/laws/show/z0356-22#n42 — Order of the Ministry of Health of Ukraine No. 441 dated 09.03.2022 "On approval of procedures for providing pre-medical assistance to persons in emergency situations"
5. http://www.nbuv.gov.ua/ — National Library of Ukraine
6. https://gmka.org/uk/category/dlya-medykiv/nevidkladna-hirugiya/ - Global Alliance for Medical Knowledge
7. www.ama-assn.org — American Medical Association
8. www.who.int — World Health Organization
9. www.dec.gov.ua/mtd/home/ — State Expert Center of the Ministry of Health of Ukraine

10. http://bma.org.uk — British Medical Association
11. www.gmc-uk.org — General Medical Council (GMC)
12. www.bundesaerztekammer.de — German Medical Association
13. https://emergencymanual.stanford.edu/downloads/ — Stanford Handbook of Emergency Medicine
14. https://www.futurelearn.com/courses/critical-care — University of Glasgow Handbook of Emergency Medicine

EVALUATION

Forms and methods of current control:

- oral control: individual survey on questions of the relevant topic;
- written control: assessment of the solution of clinical situational problems, assessment of the performance of practical skills on simulation models and mannequins;
- test control: assessment of solving test tasks.

Criteria of ongoing assessment at the practical class

Rating	Evaluation criteria
Excellent "5"	The applicant takes an active part in the lesson; demonstrates deep knowledge, gives complete and detailed answers to questions. Thoroughly and comprehensively knows the content of theoretical issues, fluent in professional and scientific terminology. Thinks logically and constructs an answer, freely uses acquired theoretical knowledge when analyzing practical tasks. When solving a clinical problem, he correctly interprets the anamnesis data, the results of clinical, laboratory and instrumental studies, correctly answers all the questions and convincingly substantiates his point of view, can propose and justify an alternative version of the decision on individual issues. When solving a practical task according to the OSCE type, he correctly demonstrates the performance of practical skills on simulation models and mannequins, strictly adheres to the algorithm of their implementation
Good "4"	The acquirer participates in the class; knows the material well; demonstrates the necessary knowledge, but answers the questions with some errors. He knows the content of theoretical issues deeply and comprehensively, and has professional and scientific terminology. Thinks logically and constructs an answer, uses acquired theoretical knowledge when analyzing practical tasks. But when teaching some questions, there is not enough depth and argumentation, it makes insignificant mistakes, which are eliminated by the student himself when the teacher points them out. When solving a clinical problem, minor errors or inaccuracies are assumed in the interpretation of anamnesis data, results of clinical, laboratory and instrumental studies, he answers all the questions without significant errors, fully substantiates his point of view, but proposals for an alternative option cause difficulties. When solving a practical task according to the OSCE type, minor errors in the algorithm and technique of performing skills on simulation models and mannequins are corrected at the instruction of the teacher
Satisfactory "3"	The acquirer sometimes participates in the activity; partially speaks and asks questions; makes mistakes when answering questions. Possesses a basic amount of theoretical knowledge, uses professional and scientific terminology inaccurately. Experiences significant difficulties in constructing an independent

	logical answer, in applying theoretical knowledge in the analysis of practical tasks. There are significant errors in the answers. When solving a clinical problem, he interprets the history data, the results of clinical, laboratory and instrumental studies with errors, does not know individual details, allows inaccuracies in the answers to questions, does not adequately justify his answers and interprets the wording, experiences difficulties in completing tasks and proposing alternative options. When solving a practical task according to the OSCE type, significant errors are assumed in the algorithm and technique of performing skills on simulation models and mannequins
Unsatisfactory "2"	The acquirer does not participate in the lesson, is only an observer; never speaks or asks questions, disinterested in learning the material; gives incorrect answers to questions. Has not mastered the basic amount of theoretical knowledge, shows a low level of mastery of professional and scientific terminology. Answers to questions are fragmentary, inconsistent, illogical, cannot apply theoretical knowledge when analyzing practical tasks. There are a significant number of gross errors in the answers. When solving a clinical problem, he cannot interpret the received history data, the results of clinical, laboratory and instrumental studies, answer the questions, or makes significant mistakes in the answers; could not justify his decisions or does it unconvincingly. It does not offer alternative options. When solving a practical task according to the OSCE type, gross errors and errors in the algorithm and technique of performing skills on simulation models and mannequins will not be demonstrated or assumed

Forms and methods of final control: test

Test is given to the applicant who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Test is carried out: at the last lesson before the beginning of the examination session — at ribbon system teaching, on to the last occupation — with a cyclical system of education. The test score is the arithmetic mean of all components on a traditional four-point scale and has a value that is rounded using the statistical method with two decimal places after the decimal point.

INDIVIDUAL WORK OF HIGHER EDUCATION ACQUIRES

Individual work: individual work with the recommended basic and additional literature, electronic information resources, individual work with the bank of test tasks Step-2, preparation for practical classes.

ACADEMIC DISCIPLINE POLICY

Deadlines and Rescheduling Policy:

- absences from classes due to non-respectable reasons are worked out according to the schedule of the teacher on duty;
- absences due to valid reasons are worked out according to an individual schedule with the permission of the dean's office.

Academic Integrity Policy:

Applicants must observe academic integrity, namely:

- independent performance of all types of work, tasks, forms of control provided for by the work program of this educational discipline;

- references to sources of information in case of use of ideas, developments, statements, information;
- compliance with the legislation on copyright and related rights;
- provision of reliable information about the results of one's own educational (scientific) activity, used research methods and sources of information.

Unacceptable in educational activities for participants of the educational process are:

- the use of family or official ties to obtain a positive or higher grade during any form of control of academic performance or academic merit;
- use of prohibited auxiliary materials or technical means (cheat sheets, notes, micro-earphones, telephones, smartphones, tablets, etc.) during control measures;
- going through procedures for monitoring the results of training by fake persons.

For violation of academic integrity, students of higher education may be held to the following academic responsibility:

- decrease in the results of assessment of individual survey, performance of test tasks, assessment for solving situational tasks, performance of individual task, credit, etc.;
- retaking the assessment (test tasks, situational tasks, individual tasks, assessment, etc.);
- assignment of additional control measures (additional situational tasks, individual tasks, tests, etc.);
- conducting an additional inspection of other works authored by the violator.

Attendance and Tardiness Policy:

State of health: applicants suffering from acute infectious diseases, including respiratory diseases, are not allowed to attend classes.

Lateness to classes is not acceptable. A student who is late for class can attend it, but if the teacher has put "nb" in the journal, he must complete it in the general order.

Use of mobile devices:

The use of any mobile devices is prohibited. In case of violation of this clause, the student must leave the class and the teacher will write "nb" in the journal, which he must complete in the general order. Mobile devices may be used by students with the permission of the instructor if they are needed for the assignment.

Behavior in the audience:

The behavior of applicants and teachers in the classrooms must be working and calm, strictly comply with the rules established by the Regulations on academic integrity and ethics of academic relations at Odesa National Medical University, in accordance with the Code of Academic Ethics and University Community Relations of Odesa National Medical University, Regulations on Prevention and detection of academic plagiarism in the research and educational work of students of higher education, scientists and teachers of Odesa National Medical University.