



INTERNATIONAL EUROPEAN UNIVERSITY

**EDUCATIONAL AND SCIENTIFIC INSTITUTE
"EUROPEAN MEDICAL SCHOOL"**

Department of Internal Medicine

APPROVED

**by the Scientific and Methodological Council
of the University,
protocol dated 29/08/2023 No. 7
Deputy Chairman of the IMC**

Oksana LISNICHUK

**COURSE TRAINING PROGRAM
ON**

**INTEGRATED MEDICAL PRACTICE WITH CLINICAL
SIMULATION PRACTICE**

for the training of students of higher education at the second (master's) level
(full-time and/or part-time study)

Knowledge area:	22 Public Health
Specialty:	222 Medicine
Educational program:	"Medicine"
Discipline status:	Mandatory

Kyiv - 2023

The academic program of the educational discipline "Integrated medical practice with clinical simulation practicum" is compiled on the basis of the educational and professional program for the second (master's) level of the specialty 222 "Medicine", approved by the Academic Council of the University on May 30, 2023, protocol No. 4.

Organizer of the program:

docent

Professor of the Department of Surgical Diseases with a course in Anesthesiology and Intensive Care, Doctor of Medicine.



Yurii STEPANOVSKII



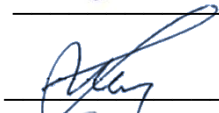
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Anastasiia BONDARENKO

The educational program of the academic discipline was reviewed and approved at the meeting of the Department of Internal Medicine, protocol No. 1 dated August 25, 2023.

Acting Head of the Department of Internal Medicine, Ph.D.



Lyudmyla ZAKORDONETS

Reviewed and approved by the Academic Council of the Educational and Scientific Institute "European Medical School", protocol No. 1 dated August 29, 2023

Head of the Scientific Council of the National Institute of Medicine, European Medical School, Doctor of Medicine, Associate Professor



Yevhenii SIMONETS

1. DESCRIPTION OF THE EDUCATIONAL DISCIPLINE

Name of indicators	Field of knowledge, direction of training, educational and qualification level	Characteristics of the academic discipline
		Full-time education
Number of credits – 8	Field of knowledge 22 "Health care"	<u>Normative</u>
	Direction of training "Medicine"	
Total number of hours – 240	Specialty: 222 "Medicine"	Year of preparation
		6-th
		Semester
		11-th, 12-th
Modules – 2	Education level: Master's degree	Lectures
		-
		Practical training
		118 h.
		Individual work
		122 h.
		Type of control:
		<u>Differentiated test</u>

2. EXPLANATORY NOTE TO PRACTICE:

The practical training of students of higher education "Integrated medical practice with clinical simulation practicum" combines and deepens the knowledge, skills, and abilities acquired by the student during five years of study, and is the final discipline that prepares the student to pass the USQE and to work in the relevant position

Integrated medical practice with a clinical simulation practicum requires the student of higher education to undergo practical training in the following sections:

1. "Integrated medical practice";
2. "Clinical simulation workshop".

3. GOAL OF THE EDUCATIONAL DISCIPLINE

The goal of the practical training of students of higher education "Integrated medical practice with clinical simulation practicum" is the achievement by students of the ability to solve complex tasks and solve problems in the field of health care, with the formation and acquisition by them of special competences of a doctor, abilities, skills and understanding with professional oriented disciplines for further professional activity.

4. COMPETENCES AND PROGRAM LEARNING OUTCOMES

the achievement of which is ensured by the educational discipline for the specialty 222 Medicine.

General competences (GC)	
GC -5	Ability to adapt and act in a new situation.

GC -6	Ability to make informed decisions.
GC -7	Ability to work in a team.
GC -8	Ability to interpersonal interaction.
GC -10	Ability to use information and communication technologies.
GC -11	Ability to search, process and analyze information from various sources.
GC -12	Determination and persistence in relation to assigned tasks and assumed responsibilities.
Professionals competence (PC)	
PC -6	Ability to determine the principles and nature of treatment and prevention of diseases.
PC -7	Ability to diagnose emergency conditions.
PC -8	Ability to determine tactics and provide emergency medical care.
PC -10	Ability to perform medical manipulations.
PC -11	Ability to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.
PC -19	Ability to organize and integrate the provision of medical care to the population and marketing of medical services.
PC -24	Adherence to ethical principles when working with patients and laboratory animals.
PC -25	Adherence to professional and academic integrity, to be responsible for the reliability of the obtained scientific results.
Program learning outcomes (PLO)	
PLO -1	Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy.
PLO -3	Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine, and related interdisciplinary problems.
PLO -6	Establish the final clinical diagnosis by making a reasoned decision and analyzing the received subjective and objective data of clinical, additional examination, differential diagnosis, observing the relevant ethical and legal norms, under the control of the head physician in the conditions of the health care institution (according to list 2) .
PLO -7	Assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to list 4) of patients with diseases of organs and body systems for differential diagnosis of diseases (according to list 2).
PLO -8	Determine the main clinical syndrome or what causes the severity of the victim/victim's condition (according to list 3) by making a reasoned decision and assessing the person's condition under any circumstances (in the conditions of a health care facility, outside its borders), including in conditions of emergency and hostilities, in field conditions, in conditions of lack of information and limited time.

PLO - 9	Determine the nature and principles of treatment (conservative, operative) of patients with diseases (according to list 2), taking into account the patient's age, in the conditions of a health care institution, outside its borders and at the stages of medical evacuation , including in field conditions, on the basis of a preliminary clinical diagnosis, observing the relevant ethical and legal norms, by making a reasoned decision according to existing algorithms and standard schemes, in case of the need to expand the standard scheme, be able to substantiate personalized recommendations under the control of the head physician in the conditions of a medical institution.
PLO - 14	Determine tactics and provide emergency medical assistance in emergency situations (according to list 3) in the conditions limited time according to the existing ones clinical protocols and treatment standards .
PLO - 16	Form rational medical routes for patients; organize interaction with colleagues in their own and other institutions, organizations and institutions; to apply tools for the promotion of medical services in the market, based on the analysis of the needs of the population, in the conditions of the functioning of the health care institution, its division, in a competitive environment.
PLO - 17	Perform medical manipulations (according to list 5) in the conditions of a medical institution, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, observing the relevant ethical and legal norms.
PLO - 21	Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.
PLO - 24	Organize the necessary level of individual safety (own and the persons he cares for) in case of typical dangerous situations in the individual field of activity.
PLO - 25	Convey one's own knowledge, conclusions and arguments on health care problems and related issues to specialists and non-specialists clearly and unambiguously
PLO - 28	Make effective decisions about health care problems, evaluate the necessary resources, take into account social, economic and ethical consequences.

5. SECTION "INTEGRATED MEDICAL PRACTICE"

5.1. Structure of the section "Integrated medical practice"

Name of the practical lesson	Practical lesson	Individual work
Topic 1: Modern comprehensive ideas about diagnosis, treatment and prevention of diseases of a therapeutic profile in adults. Peculiarities of examination of patients and the clinical course of internal diseases, their differential diagnostic features, methods of treatment and prevention with the use of modern means and methods. Peculiarities of emergency assistance. Prevention of internal diseases at the level of the individual and society.	5	5

Topic 2: Modern complex ideas about diagnosis, treatment, and prevention of diseases of a surgical profile in the work of a general medicine doctor. Differential diagnostic features of surgical diseases of the chest and chest cavity organs. Traumatic injury to organs of the abdominal cavity, head, chest cavity, gunshot injuries. Surgical purulent infection, methods of treatment, and prevention. Surgical gastroenterology, differential diagnosis, features of treatment and prevention using modern means and methods. Surgical diseases of arterial and venous vessels, thyroid gland, and urinary system. Peculiarities of emergency assistance. Prevention of surgical diseases at the level of the individual and society.	6	5
Topic 3: Modern comprehensive ideas about pediatrics. Diseases of young children. Respiratory diseases in children. Allergic diseases in children. Cardiorheumatology of childhood. Diseases of digestive organs in children. Diseases of the urinary system in children. Neonatology. Diseases of the blood system in children. Diseases of the endocrine system in children. Differential diagnosis, features of treatment, and prevention of pediatric diseases with the use of modern means and methods. Features of emergency care. Prevention of diseases in children at the level of the individual and society	5	5
Topic 4: Modern comprehensive ideas about infectious diseases and epidemiology as a component of medical care for the population. Infectious diseases with the fecal-oral mechanism of transmission in adults and children. Infectious diseases with the airborne mechanism of transmission in adults and children. Viral hepatitis. HIV infection. Infectious diseases with a transmissible transmission mechanism. Infectious diseases with wounds and multiple mechanisms of transmission. Tuberculosis. Features of differential diagnosis, treatment, and prevention in adults and children. Assistance in emergency situations.	5	5
Topic 5: Modern comprehensive ideas about the provision of obstetric and gynecological care in the practice of a general practitioner. Organization of medical care for pregnant women, women in labor, and parturient women in Ukraine. Physiological and pathological childbirth, diagnosis and tactics of management, treatment of complications of pregnancy, childbirth, and the postpartum period in the conditions of an obstetric hospital. Gynecological pathology and management of patients with diseases of the genital organs. Assistance in emergency situations.	6	5
Topic 6: Modern comprehensive ideas about oncology as a component of medical care for the population. Etiology and epidemiology of oncological diseases. Theories and pathogenesis of carcinogenesis. Typical clinical manifestations of oncological diseases. Methods of diagnosis and treatment of malignant tumors, rehabilitation of cancer patients. Features of differential diagnosis and prevention of neoplasms. Assistance in emergency situations.	5	5

Topic 7: Modern comprehensive ideas about hygiene and ecology in the working conditions of a doctor of general medicine. Environmental hygiene. Water hygiene and water supply. Soil hygiene and cleaning of populated areas. Air hygiene. Food hygiene. Study of the impact of environmental factors on the human body and population health and their evaluation.	5	5
Topic 8: Modern ideas about public health. Peculiarities of analysis and assessment of state, social, and medical information using standard approaches and computer information technologies. Biostatistics. Population health statistics. Health care organization. Research, analysis, and assessment of population health indicators, development of recommendations from the standpoint of evidence-based medicine prevention and elimination of the harmful effects of factors and improvement of the organization of medical assistance to the population	5	5
Topic 9: Modern comprehensive ideas about evidence-based medicine in the practice of a general practitioner. The choice of methods of treatment and diagnosis based on the principles of evidence-based medicine.	5	7
Topic 10: Credit control	3	8
Total hours:	50	55

5.2. Content of practical classes

Topic 1. Modern complex ideas about diagnosis, treatment and prevention of diseases of a therapeutic profile in adults.
"Modern comprehensive ideas about diagnosis, treatment and prevention of diseases of a therapeutic profile in adults." The role of the discipline in the training of a general practitioner. Peculiarities of the use of complex systemic clinical knowledge in the diagnosis and treatment of infectious and non-infectious diseases.
Solving practical tasks regarding the use of complex system knowledge about the course of infectious and non-infectious pathology in the diagnosis and treatment of therapeutic and profile diseases.
Topic 2. Modern complex ideas about diagnosis, treatment and prevention of diseases of a surgical profile in the work of a doctor of general medicine.
"Modern comprehensive ideas about diagnosis, treatment and prevention of diseases of a surgical profile in the work of a general medicine doctor." Solving practical tasks regarding the use of complex system knowledge about surgical pathology in the diagnosis and treatment of major surgical diseases.
Topic 3. Modern complex ideas about pediatrics
"Modern comprehensive ideas about pediatrics" Solving practical tasks regarding the use of comprehensive systemic knowledge of pediatrics in the diagnosis and treatment of children's diseases.
Topic 4. Modern comprehensive ideas about infectious diseases and epidemiology as a component of medical care for the population.

"Modern comprehensive ideas about infectious diseases and epidemiology" Solving practical tasks regarding the use of complex systemic knowledge about infectious diseases and epidemiology as a component of medical assistance to the population in the diagnosis and treatment of infectious diseases.
Topic 5. Modern complex concepts of providing obstetric and gynecological care in the practice of a general practitioner.
"Modern comprehensive ideas about the provision of obstetric and gynecological care in the practice of a general practitioner." Organization of medical care for pregnant women, women in labor and women in labor in Ukraine. Physiological and pathological childbirth, diagnosis and tactics of management, treatment of complications of pregnancy, childbirth, postpartum period in the conditions of an obstetric hospital. Gynecological pathology and management of patients with diseases of the genital organs.
Topic 6. Modern comprehensive ideas about oncology as a component of medical care for the population.
"Modern comprehensive ideas about oncology" Solving practical tasks regarding the use of complex system knowledge about oncology as a component of medical assistance to the population, in the diagnosis and treatment of oncological diseases
Topic 7. Modern comprehensive ideas about hygiene and ecology in the working conditions of a doctor of general medicine.
"Modern comprehensive ideas about hygiene and the organization of health care in the working conditions of a general practitioner." Solving practical tasks regarding the use of complex system knowledge about hygiene and ecology for sanitary and epidemiological supervision of objects and components of the national economy, planning of anti-epidemic measures, sanitary protection of the population.
Topic 8. Modern ideas about public health.
"Modern ideas about public health" Solving practical tasks related to the use of complex system knowledge about public health and the basis of evidence-based medicine in the implementation of measures aimed at protecting public health.
Topic 9: Modern comprehensive ideas about evidence-based medicine in the practice of a general practitioner.
Solving practical tasks related to the use of complex system knowledge from evidence-based medicine when choosing methods of treatment and diagnosis of patients with various pathologies.
Topic 10: Credit control

5.3. Types of individual work of students

№	Types of IWS	Number of hours	Types of control
1	Preparation for practical classes	27	Current control
2	Performing individual work: curation of patients, writing and defense of medical history	22	Current control
3	Preparation for the final control	6	differentiate test
	Total	55	

6. SECTION "CLINICAL SIMULATION PRACTICUM"

The "Clinical simulation practicum" section consists of 4 modules:

- Module 1 "Internal Medicine"
- Module 2 "Pediatrics"
- Module 3 "Obstetrics and Gynecology"
- Module 4 "Surgery"

SUBJECTS OF PRACTICAL LESSONS

Module 1 "Internal Medicine"		
№	Subject name	Number of hours
1.	Examination of the patient: collection of anamnesis and physical examination (palpation, percussion, auscultation of the organs of the chest cavity (heart, lungs) and organs of the abdominal cavity).	7
2.	Simulation of circulatory and respiratory arrest (indirect heart massage, artificial lung ventilation, defibrillation)	7
3.	Simulation of emergency conditions of adults (hypertensive crisis, drop in blood pressure, shock, acute left ventricular failure)	7
4.	Modeling of rhythm and conduction disturbances (hemodynamically stable and unstable), ECG registration	7
Module 2 "Pediatrics"		
5.	Modeling emergency conditions in pediatrics: acute respiratory failure, implementation options and basics of selecting ventilator parameters	7
6.	Modeling cardiopulmonary resuscitation in children of different ages	7
Module 3 "Obstetrics and Gynecology"		
7.	Modeling emergency conditions in gynecology	7
Module 4 "Surgery"		
8	Laparoscopic operations for acute abdominal pathology. Puncture of the pleural cavity.	7
9.	Simulation of emergency conditions in surgery	7
10.	differentiate test	5
	Total	68

SUBJECTS OF INDIVIDUAL WORK FROM MODULE 1

№	Subject name	Number of hours
1	Work in departments of medical institutions, including in laboratories and offices of functional diagnostics; interpretation of data from laboratory and instrumental research methods in internal pathology;	8
2	Acquisition of practical skills with the help of phantoms and working with patients	8
3	Total	16

LIST OF PRACTICAL WORK AND TASKS FOR MODULE 1

- Work with the patient
- Collection of complaints, medical history, life history;

- Collection of information about the general condition of the patient (consciousness, constitution, fatness) and assessment of appearance (examination of the skin, subcutaneous fat layer, palpation of lymph nodes, thyroid and mammary glands), examination of the condition of the musculoskeletal system, joints;
- Examination of respiratory organs (examination of the chest, palpation of the chest, percussion and auscultation of the lungs);
- Examination of the circulatory system (examination and palpation of the area of the heart and blood vessels, percussion of the borders of the heart and auscultation of the heart and blood vessels);
- Examination of digestive organs (examination, percussion, superficial and deep palpation);
- Examination of the musculoskeletal system (examination, palpation, determination of the volume of movements);
- Examination of the urinary system (examination of the lumbar region, palpation of the kidneys).
- Identify the leading clinical symptom or syndrome (List 1)
- Make a probable (preliminary) or syndromic diagnosis of an emergency (List 2).
- Prescribe and substantiate the laboratory and/or instrumental examination of a patient with major diseases in the internal medicine clinic (List 2).
- Make an examination plan and substantiate the use of each non-invasive and invasive diagnostic method used in the clinic of internal medicine.
- Interpret the results of laboratory and instrumental studies (List 3)
- Carry out differential diagnosis with the main symptoms and syndromes (List 1).
- Make a clinical diagnosis (List 2).
- Determine the principles and nature of treatment (conservative, operative) of the disease (List 2).
- Determine the necessary regime and diet of a patient with major diseases in the clinic of internal medicine (List 2).
- Perform medical manipulations (List 4)
- Determine tactics of secondary prevention of patients who are subject to dispensary supervision.
- Keep medical records.

List 1 (syndromes and symptoms)

1. Arterial hypertension
2. Arterial hypotension
3. Ascites
4. Chest pain
5. Stomach pain
6. Pain in the limbs and back, broncho-obstructive syndrome
7. Effusion in the pleural cavity
8. Hemorrhagic syndrome
9. Hepatomegaly and hepatolienal syndrome
10. Headache
11. Shortness of breath
12. Dizziness
13. Cardiomegaly
14. Fever
15. Edema syndrome.
16. Fainting
17. Irregular heart rhythm
18. Joint syndrome.
19. Weight loss
20. Cyanosis.

List 2 (emergency conditions)

1. Asphyxia
2. hypertensive crisis
3. acute respiratory failure
4. acute adrenal insufficiency
5. acute liver failure
6. acute heart failure
7. cardiac arrest
8. collapse
9. bleeding from the upper gastrointestinal tract
10. impaired consciousness and comatose states
11. acute anaphylactic reactions
12. acute heart rhythm disturbances
13. shocks

List 3 (laboratory and instrumental research methods)

1. Analysis of punctate fluid.
2. Blood glucose, glycated hemoglobin,
3. Creatinine, blood urea, calculation of GFR.
4. Blood electrolytes
5. Blood transaminases
6. Total blood bilirubin and its fractions
7. Coagulogram
8. Blood uric acid
9. Blood alkaline phosphatase
10. Study of the function of external breathing
11. Standard ECG (in 12 leads)
12. Endoscopic examination of bronchi
13. Endoscopic examination of the digestive tract
14. Echocardiography and dopplerography
15. General analysis of feces
16. General blood analysis
17. General analysis of urine
18. Methods of instrumental visualization

List 4 (medical manipulations)

1. Perform indirect heart massage
2. Perform artificial respiration
3. Perform defibrillation using a manual automatic defibrillator-cardioverter
4. Register a standard 12-lead ECG
5. Install nasogastric and orogastric probes.
6. Administer medicinal substances (intravenous jet and drip, intraosseous)
7. Provide peripheral venous access
8. Measure blood pressure
9. To restore the patency of the respiratory tract
10. Perform a digital examination of the rectum
11. Perform a pleural puncture

To know the clinical pharmacology of the main groups of medicinal products

1. α and β -adrenostimulators
2. Antianginal
3. Antiarrhythmics
4. Antihypertensives
5. Anticoagulants

6. Glucocorticoids and cystostatic immunosuppressants
7. Diuretics
8. Proton pump inhibitors
13. Nonsteroidal anti-inflammatory drugs
14. Cholinolytics

SUBJECTS OF INDIVIDUAL WORK FROM MODULE 2

	Subject name	Number of hours
	Blood transfusion in pediatric practice.	3
	Convulsive syndrome: diagnosis, emergency care	4
	Lumbar puncture: indications, rules of conduct	4
	Sternal puncture: indications, rules of conduct	3
	Total	14

LIST OF QUESTIONS FOR STUDYING MODULE 2

1. Emergency care for acute respiratory failure depending on the cause and degree of severity.
2. Provision of emergency care for asthmatic status.
3. Provision of emergency assistance to children with acute heart failure.
4. Provision of emergency care for paroxysmal tachycardia, atrial fibrillation, and MAS syndrome in children.
5. Providing emergency care to children with acute liver failure and complications of portal hypertension syndrome.
6. Emergency aid for acute urinary retention.
7. Provision of emergency care for acutely damaged kidneys in children.
8. Provision of emergency care for vegetative crises, hypertensive crisis.
9. Accidents and peculiarities of doctor's tactics when providing emergency medical care to children.
10. Emergency care for anaphylactic shock.

SUBJECTS OF INDIVIDUAL WORK FROM MODULE 3

№	Subject name	Number of hours
1	Study of educational and methodical literature on the subject of the lesson.	2
2	Mastering the methodology of external obstetric examination of pregnant women (Leopold-Levytsky techniques, pelviometry, auscultation of the fetal heartbeat).	1
3	Mastering the methodology of conducting an internal obstetric (vaginal) examination in full-term, late-term pregnancy and premature birth.	2
4	Determination of the term of pregnancy (according to the anamnesis and objective examination), determination of the estimated date of delivery.	1
5	Determination of the gestational age of the fetus and its weight.	2
6	Evaluation of the results of amnioscopy, amniocentesis, interpretation of CTG, ultrasound.	1
7	Performing a combined external-internal obstetric rotation, extraction of the fetus by the pelvic end.	2
8	Performing amniotomy, episiotomy, perineotomy.	1
9	Mastering the methodology of obstetric and gynecological examination (mirror, bimanual, rectal, rectovaginal).	2
10	Оцінювання результатів клінічних, біохімічних, імунологічних та цитологічних, гістологічних, бактеріологічних, паразитологічних досліджень.	1

11	Analysis of instrumental studies (colposcopy, colpocytology, diagnostic tests of the functional state of the ovaries).	2
12	Provision of emergency care at the pre-hospital stage: uterine bleeding, ovarian tumor rupture, ovarian apoplexy, etc.	1
	Total	18

LIST OF QUESTIONS FOR STUDYING MODULE 3

1. External obstetric examination of pregnant women (Leopold-Levytsky techniques, pelviometry, auscultation of the fetal heartbeat).
2. Internal obstetric (vaginal) examination in full-term, late pregnancy and premature birth.
3. Determination of the term of pregnancy (according to the anamnesis and objective examination), determination of the estimated term of delivery.
4. Determination of the gestational age of the fetus and its weight.
5. Peculiarities of providing obstetric care during childbirth and in the postpartum period.
6. Providing assistance to protect the perineum during physiological childbirth.
7. Determination of the condition of the newborn according to the Apgar scale. Evaluation of the condition of the fetus. The primary toilet of a newborn.
8. Compilation of a scheme for medication correction of birth defects.
9. Evaluation of results of amnioscopy, amniocentesis, interpretation of CTG, ultrasound.
10. Peculiarities of performing obstetric operations.
11. Providing assistance in emergency situations in obstetrics: eclampsia, obstetric bleeding, postpartum septic complications.
12. Peculiarities of survey and obstetric and gynecological examination (mirror, bimanual, rectal, rectovaginal).
13. Examination and palpation of mammary glands.
14. Evaluation of the results of clinical, biochemical, immunological and cytological, histological, bacteriological, parasitological studies.
15. Analysis of instrumental studies (colposcopy, colpocytology, diagnostic tests of the functional state of the ovaries).
16. Evaluation of the results of ultrasound and X-ray examinations of the female genital organs.
17. substantiating and formulation of clinical diagnosis, differential diagnosis between acute gynecological and surgical diseases.
18. Oncoprophylaxis and oncodiagnosis in gynecology, prevention of sexually transmitted diseases.
19. Provision of emergency care at the pre-hospital stage: uterine bleeding, ovarian tumor rupture, ovarian apoplexy, etc.
20. Use of pharmacological drugs during resuscitation measures in adults.

SUBJECTS OF INDIVIDUAL WORK FROM MODULE 4

№	Subject name	Number of hours
1	Place and importance of simulation training in the medical education system	4
2	The history of the emergence and application of simulation training in the system of medical education	4
3	Necessary equipment and features of its use when performing laparoscopic operations	4
4	Types of ultrasonic diagnostic sensors and ultrasonic diagnostic devices.	3
5	Interventional and navigation methods under ultrasound control	4
	Total	19

LIST OF QUESTIONS FOR STUDYING MODULE 4

1. Provision of emergency medical care for pulmonary bleeding.

2. First aid for patients with emergency conditions in case of damage to parenchymal organs of the abdomen
3. Providing first aid for esophageal burns
4. Methodology of closed heart massage. Intracardiac puncture technique.
5. Emergency care for ruptures of internal organs
6. Emergency care for gastric bleeding
7. Analysis of laboratory and instrumental studies
8. Technique of performing laparoscopic operations in the abdominal cavity
9. Laparoscopic cholecystectomy technique
10. Emergency care for acute peritonitis

7. TEACHING METHODS

According to the sources of knowledge, teaching methods are used: verbal - story, explanation, lecture, instruction; visual - demonstration, illustration; practical - practical work, problem solving. According to the nature of the logic of knowledge, methods are used: analytical, synthetic, analytical-synthetic, inductive, deductive. According to the level of independent mental activity, the following methods are used: problem-based, searching, research.

1. Verbal methods: conversation;
2. Visual methods: illustration, demonstration, demonstration at the patient's bedside;
3. Practical methods: performing practical work and solving situational tasks to develop skills and abilities; simulation training.
4. Students' independent work on understanding and assimilation of new material
5. Use of control and training computer programs
6. Innovative teaching methods: Case-based learning (Learning through the analysis of a clinical case, situation); brainstorming; educational discussion; educational debate; role play; team-based learning; think-pair-share.

The types of training classes according to the curriculum are: practical classes; individual work of students.

8. CONTROL METHODS

Current control is carried out on the basis of control of theoretical knowledge, practical skills, and abilities.

Forms of current control are oral survey (frontal, individual, combined), interview; practical verification of the formed professional skills (carried out based on the results of solving clinical cases, working with medical documentation, performing practical skills, working at the patient's bedside); test control ("open" and "closed" test tasks).

Current control is mandatory. During the evaluation of mastering each topic from all disciplines of the curriculum for the current educational activity, the student is given grades on a 4-point (traditional scale) taking into account the approved evaluation criteria for the discipline. All types of work provided by the curriculum are taken into account. The student must receive a grade in each topic. The teacher conducts a survey of each student in the group at each lesson and assigns a grade in the journal of attendance and student success according to the traditional scale ("5", "4", "3", "2").

When evaluating the student's current educational activity, 20% of the grade is the student's independent work, which takes into account the knowledge of the topic of independent study and the performance of work in the notebook.

The final (summary) control is carried out:

- in the form of a written test, which includes test tasks, theoretical questions
- control of practical skills (solving clinical cases, defense of medical history, assessment of the correctness of practical skills - practical-oriented exam).

According to the specifics of professional training, preference is given to test and practically oriented control.

The form of final control of study success.

The final control of the discipline is carried out on the basis of control of theoretical knowledge, practical skills and abilities.

Differential assessment is a form of final control of the student's assimilation of theoretical and practical material from the academic discipline.

9. CALCULATION SCHEME AND DISTRIBUTION OF POINTS RECEIVED BY STUDENTS

The maximum number of points for a discipline is 200 points. The ratio between the results of the evaluation of the current educational activity and the final control of knowledge is 60% and 40%.

The study of the discipline ends with a final control in the form of a differential assessment.

Only those students who do not have academic debt (all missed classes have been completed) and whose average score for the current educational activity in the academic discipline is at least "3" are admitted to the differential credit.

The maximum number of points that a student can score for the current educational activity for admission to the exam is 120 points and is defined as the sum of the arithmetic average of all grades received in the semester.

The minimum number of points that a student must score for the current educational activity for admission to the exam is 72 points. Recalculation of the average grade for the current academic performance (on a 120-point scale) in the table. 1.

Table 1.

Recalculation of the average grade for the current academic performance in a multi-point scale for disciplines ending with an exam

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	120	4.29	103	3.58	86
4.96	119	4.25	102	3.54	85
4.92	118	4.21	101	3.50	84
4.87	117	4.17	100	3.46	83
4.83	116	4.12	99	3.42	82
4.79	115	4.08	98	3.37	81
4.75	114	4.04	97	3.33	80
4.71	113	4.00	96	3.29	79
4.67	112	3.96	95	3.25	78
4.62	111	3.92	94	3.21	77
4.58	110	3.87	93	3.17	76
4.54	109	3.83	92	3.12	75
4.50	108	3.79	91	3.08	74
4.46	107	3.75	90	3.04	73
4.42	106	3.71	89	3	72
4.37	105	3.67	88	Less than 3	Not enough
4.33	104	3.62	87		

The maximum number of points that a student can score when taking the exam is 80 (the minimum number is at least 50).

The grade for the discipline is determined comprehensively, as the sum of points for the current educational activity and points for the exam.

From the allocated 120 points for the current educational activity, 4 to 12 additional points are allocated for the assessment of individual independent work of higher education applicants, according to the work curriculum. Encouragement points are added to the final grade for the discipline at the end of its study.

Points from the discipline for students who have successfully completed the program are converted into the national scale and the ECTS system (Table 2).

Table 2

Evaluation scale: national and ECTS

The sum of points for all types of educational activities	ECTS grade	Grade according to the national scale	
		for the exam, differentiate test	for credit
180-200	A	excellent	credited
160-179	B	good	
150-159	C		
130-149	D	satisfactorily	
120-129	E		
50-119	F X	unsatisfactory with the possibility of retaking	Not credited with the possibility of retaking
0- 49	F	unsatisfactory with mandatory repeated study of the discipline	Not credited with mandatory repeated study of the discipline

7. METHODOLOGICAL PROVISION

1. Methodical developments of lectures.
2. Methodical guidelines for the independent work of higher education students during preparation for practical classes and during classes.
3. Methodological guidelines for the independent work of higher education applicants for the study of topics submitted for independent study.
4. Methodological recommendations on the organization of production practice.
5. List of recommended literature.
6. Multimedia presentations.
7. Materials for monitoring the knowledge, abilities and skills of higher education applicants:
8. tests of different levels of difficulty;
9. tests from the license exam bank "Krok - 2";
10. situational problems;
11. clinical cases;
12. computer control programs.
13. Video films.
14. Clinical tests.

8. RECOMMENDED LITERATURE

1. "Healthcare Simulation Education: Evidence, Theory and Practice" – by Debra Nestel Mark Watson, Brian Jolly, 2017- 654p
2. Developing Successful Healthcare Education Simulation Centers - by Jim Battin, Pamela F. Jeffris, 2011- 526p
3. Pocket Book for Simulation Debriefing in Healthcare – by Guillaume Alinier, Denis Oriot, 2017 – 560p
4. "Emergency medicine. Emergency medical care" I.S. Zozulya, A.O. Volosovets 5th edition, 2022- 560 p.
5. The role of simulation training in improving the quality of medical care / V. V. Artyomenko [et

al.] // Journal of management of a health care institution: Consulting and reference edition. - K. LLC "International Center for Financial and Economic Development - Ukraine", 2007–2014. – No. 12. – P. 40–48.

11. Effectiveness of simulation training methods / V. V. Artyomenko [et al.] // Journal of management of a health care institution: Consulting and reference edition. – K.: LLC "International Center for Financial and Economic Development — Ukraine", 2007–2015. – No. 6. – P. 70–76.

Official evidence-based, practically-oriented medical information contained in the publications:

1. AMA (American Medical Association) <https://www.ama-assn.org/>
2. American Academy of Family Physicians <http://www.aafp.org/home.html>
3. American Academy of Pediatrics Policy (AAP Policy) Clinical Practice Guidelines <https://www.aap.org>
4. American College of Cardiology <http://www.acc.org/>
5. American College of Emergency Physicians <https://www.acep.org/>
6. American Heart Association <http://news.heart.org/>
7. BMJ Clinical Evidence <http://clinicalevidence.bmj.com>
8. Brain Trauma Foundation (BTF) <https://www.braintrauma.org/> <http://www.trauma.org/>
9. Eastern Association for the Surgery of Trauma <https://www.east.org/>
10. European Pediatric Association, the Union of National European Pediatric Societies and Associations (EPA/UNEPSA) <http://www.epa-une psa.org/>
11. European Society of Cardiology <http://www.escardio.org/>
12. <http://www.mozdocs.kiev.ua>
13. Medscape from WebMD <http://www.medscape.com>
14. Medscape from WebMD <http://www.medscape.com>
15. National Comprehensive Cancer Network <https://www.nccn.org/>
16. National Guideline Clearinghouse <https://www.guideline.gov/>
17. National Institute for Health and Clinical Excellence (NICE) <https://www.nice.org.uk/>
18. Royal College of Physicians <https://www.rcplondon.ac.uk/>
19. The Association of the Scientific Medical Societies in Germany <http://www.awmf.org>
20. The Cochrane Collaboration The Cochrane Library
21. The European Society for Emergency Medicine <https://www.eusem.org/>
22. The Finnish Medical Society Duodecim <https://www.duodecim.fi/>
23. The French National Authority for Health <http://www.has-sante.fr/>
24. The National Association of Emergency Medical Technicians (NAEMT) <http://www.naemt.org/>
25. The National Association of State EMS <https://www.nasemso.org/>
26. The National Health and Medical Research Council (NHMRC) <https://www.nhmrc.gov.au>
27. Up To Date <http://www.uptodate.com> Western Trauma Association <https://westerntrauma.org/>

9. INFORMATION RESOURCES

Coursera

Lectures by world-class professors and reinforced through interactive exercises. coursera.org

CSurgeries

Library of surgical procedures created by surgeons for surgeons. csurgeries.com

DNA Tube

Videos, animations, and slideshows from scientific studies, lectures, and seminars. dnatube.com

EyeTube

High quality ophthalmic surgical videos and panel discussions. eyetube.net

Free Medical Videos

Archive of popular and engaging medical videos from around the

Internet.freemedicalvideos.com

FutureLearn: Healthcare and Medicine

Offers a diverse selection of courses from leading European universities.futurelearn.com -

Geeky Medics

Free videos, revision notes, OSCE guides, and MCQs for medical students.geekymedics.com

GrepMed

Community-sourced medical image and video repository.grepmed.com

HealthTalk.org

Videos of patients sharing real life experiences with various health conditions.healthtalk.org

Khan Academy

Academic videos and lectures on medicine and the healthcare system.khanacademy.org

Mayo Clinic Videos

Surgical procedure videos and interviews with Mayo Clinic doctors, sorted by specialty.medprofvideos.mayoclinic.org

MedicalVideos.com

Library of medical videos covering everything from anesthesia to vascular x-ray imaging.medicalvideos.com

Medscape Video

Expert interviews and perspectives as well as procedure videos.medscape.com

MEDtube

Education platform offering thousands of videos for healthcare professionals.medtube.net

MIT Open CourseWare

Lectures and course materials for students, teachers, and self-learners.ocw.mit.edu

OnlineMedEd

70+ hours of whiteboard lessons covering 250+ topics across 19 specialties.onlinemeded.org

PBS: Health Videos

Free videos from your favorite PBS programs, including NOVA and Frontline.pbs.org

TED Health

Fascinating presentations by the world's leading thinkers and doers.ted.com

The Doctor's Channel

Short and to-the-point video clips on the latest medical news, ideas, and information.thedoctorschannel.com

VuMedi

Physician only site providing thousands of videos from leading institutions.vumedi.com

WebSurg

European site created by surgeons for surgeons, in order to help with surgical training.websurg.com