STATE UNIVERSITY
"UZHHOROD NATIONAL UNIVERSITY"
STATE UNIVERSITY
"UZHHOROD NATIONAL UNIVERSITY"
MEDICAL FACULTY 2
Department Of Internal Medicine

"APPROVED"
Dean of the Medical Faculty 2
Vasyl KALIY
"28" 05 2025

SYLLABUS

EC 11. INTERNAL MEDICINE SIMULATION TRAINING (PRACTICE)

Educational level	**Second (Master)**
Subject area	**22 "Health" / I "Health and Social Welfare"**
Specialty	**222 "Medicine" / I2 "Medicine"**
Educational program	**"General Medicine"**
Discipline status	**Compulsory**
The language of instruction	**English**

Uzhhorod 2025

"Simulation training (practice of internal medicine)" syllabus for higher education seekers of the subject area 22 "Health" / I "Health and Social Welfare", specialty 222 "Medicine"/ I2 "Medicine", educational program "General medicine".

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Minutes № _11_ of "_28_" __May_ 2025

Head of the Department _____ /Marianna TOVT-KORSHYNSKA/

Approved by the Scientific-Methodical Commission of the Medical Faculty 2

Minutes № _9_ of "*28*" May 2025

Head of the Scientific-Methodical Commission _____ /Nataliia MALETS/

1. DESCRIPTION OF THE EDUCATIONAL SUBJECT

<table>
<tr><td rowspan="2">Name of indicators</td><td colspan="2">Distribution of academic hours according to the curriculum</td></tr>
<tr><td>Full-time study</td><td>Extramural form of study</td></tr>
<tr><td>ECTS credits –3</td><td colspan="2">Year of training:</td></tr>
<tr><td>Total number of hours – 90</td><td>6</td><td>-</td></tr>
<tr><td>Number of modules –2</td><td colspan="2">Semester:</td></tr>
<tr><td rowspan="6">Weekly academic hours for full-time study:

class-room academic hours - 2

student's self-study hours - 3</td><td>12</td><td>-</td></tr>
<tr><td colspan="2">Lectures:</td></tr>
<tr><td>-</td><td>-</td></tr>
<tr><td colspan="2">Practical classes (seminars):</td></tr>
<tr><td>30</td><td>-</td></tr>
<tr><td colspan="2">Laboratory classes:</td></tr>
<tr><td>Type of final control: (credit)</td><td>-</td><td>-</td></tr>
<tr><td rowspan="2">Form of final control: (oral)</td><td colspan="2">Self-study:</td></tr>
<tr><td>60</td><td>-</td></tr>
</table>

2. PURPOSE OF THE EDUCATIONAL SUBJECT

The purpose of studying the discipline "Simulation training (practice of internal medicine)" is to generalize the acquired knowledge, special competencies which are used in internal medicine practice.

According to the educational program, the study of the discipline contributes to the formation of the following competencies in higher education seekers:

General competencies (GC):

1. The ability to think abstractly, analyze and synthesize.
2. The ability to learn and master modern knowledge.
3. The ability to apply knowledge in practical situations.
4. Knowledge and understanding of the subject area and understanding of professional activity.
5. The ability to adapt to and act in a new situation.
6. The ability to make reasoned decisions.
7. The ability to work in a team.

Professional competencies of the specialty (PC):

1. The ability to collect medical information about the patient and analyze clinical data.
2. The ability to determine the necessary panel of laboratory and instrumental research and to evaluate their results.
3. The ability to establish a preliminary and a clinical diagnosis of the disease.
4. The ability to determine the required mode of work and rest in the treatment of diseases.
5. The ability to determine therapeutic nutrition in the treatment of diseases.
6. The ability to determine the principles and nature of disease treatment and prevention.
7. The ability to diagnose emergencies.
8. The ability to determine the tactics of providing emergency care.
9. The ability to carry out medical and evacuation procedures.
10. The ability to perform medical manipulations.
11. The ability to solve medical problems in new or unfamiliar environments having incomplete or limited information, taking into account aspects of social and ethical responsibility.
12. The ability to determine the tactics of physiological pregnancy, physiological childbirth and the postpartum period. Counseling skills regarding family planning and contraceptive method selection.
13. The ability to carry out sanitary-hygienic and preventive measures.

3. PREREQUISITES FOR STUDYING THE EDUCATIONAL SUBJECT

The prerequisites for studying the educational subject " Simulation training (practice of internal medicine " are mastering the following educational subjects (ES) of the educational program (EP):

29. Internal medicine, including endocrinology, medical genetics
30. Pediatrics
32. Obstetrics and gynecology
46. General surgery, including children's surgery, neurosurgery

4. EXPECTED LEARNING OUTCOMES

According to the educational program "General Medicine", the study of the educational subjects should ensure the achievement of the following program learning outcomes (PLO) by higher education seekers**:**

Program learning outcomes	PLO code
To distinguish and identify leading clinical symptoms and syndromes (according to the list 1); according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the human, human's organs and systems, establish a preliminary clinical diagnosis of the disease (according to the list 2).	PLO 4
To collect complaints, history of life and diseases, evaluate psychomotor and physical development of the patient, state of organs and systems of the body, based on the results of laboratory and instrumental studies, evaluate information regarding the diagnosis (according to the list 4), taking into account the age of the patient.	PLO 5
To assign and analyze additional (mandatory and optional) examination methods (laboratory, functional and/or instrumental) (according to the list 4) of patients with diseases of organs and body systems for carrying out differential diagnosis of diseases (according to the list 2).	PLO 7
To determine the main clinical syndrome or preconditions for the severity of the condition of the victim/the injured (according to the list 3) by making a reasoned decision and assessing the person's condition under any circumstances (within or outside a health care facility), both in conditions of emergency and hostilities as well as in field conditions, in conditions of lack of information and limited time.	PLO 8
To determine the approach, plan and tactics of managing physiological pregnancy, physiological childbirth and the postpartum period by making a reasoned decision according to existing algorithms and standard schemes.	PLO 11
To assess the general condition of a newborn child by making a reasoned decision according to existing algorithms and standard schemes, upholding relevant ethical and legal standards.	PLO 12
To assess and monitor the child's development, provide recommendations on feeding and specifics of nutrition depending on the age, organize preventive vaccinations according to the calendar.	PLO 13
To determine tactics and provide emergency medical care in emergency situations (according to the list 3) in limited time conditions according to existing clinical protocols and standards of treatment.	PLO 14
To organize the provision of medical care and medical evacuation procedures for the population and military personnel in emergency situations and hostilities, including field conditions.	PLO 15
To perform medical manipulations (according to the list 5) within a medical facility, at home or at work based on a previous clinical diagnosis and/or indicators of the patient's condition by making a reasoned decision, upholding relevant ethical and legal standards.	PLO 17

List 1 (syndromes and symptoms)

1. abdominal pain
2. acromegaly
3. amenorrhea
4. anemic syndrome
5. anuria and oliguria
6. arterial hypertension
7. arterial hypotension
8. asphyxia
9. broncho-obstructive syndrome
10. bulbar syndrome
11. cardiomegaly
12. chest pain
13. child growth retardation
14. comma
15. convulsions
16. cough
17. cyanosis
18. dehydration syndrome

19. dementia syndrome
20. diarrhea
21. disorders of consciousness
22. dizziness
23. dysmenorrhea
24. dyspepsia
25. dysphagia
26. dysuria
27. edematous syndrome
28. effusion in the pleural cavity
29. exanthema, enanthema
30. external bleeding
31. fasten
32. fever
33. fractures of tubular bones
34. gastrointestinal bleeding
35. hallucinatory-paranoid syndrome
36. headache
37. heart rhythm and conduction disturbances
38. hemoptysis
39. hemorrhagic syndrome
40. hepatomegaly and hepatolienal syndrome
41. hyperglycemia
42. hypoglycemia
43. indigestion syndrome
44. internal bleeding
45. intestinal obstruction
46. itchy skin
47. jaundice
48. joint syndrome
49. lactorrhea
50. lymphadenopathy
51. meningeal syndrome
52. obesity (+ body weight)
53. pain in the limbs and back
54. pain in the perineum
55. paresis, paralysis
56. partial or complete hearing loss
57. partial or complete loss of vision
58. pneumothorax relaxed (open)
59. pneumothorax tense (closed)
60. polyuria
61. portal hypertension
62. premature sexual development
63. Shortness of breath
64. sore throat
65. speech disorder (aphasia)
66. stridor
67. sudden cardiac arrest
68. thirst
69. urinary syndrome
70. uterine bleeding
71. valvular pneumothorax
72. vomiting
73. weight loss

List 2 (diseases)

I. Diseases of the blood and hematopoietic organs, disorders involving the immune mechanism:

1. anemia
2. chronic radiation damage
3. Congenital (Bruton's disease, Wiskott-Aldridge syndrome) and acquired immunodeficiency states
4. hemolytic disease of newborns
5. hemophilia
6. idiopathic thrombocytopenic purpura
7. leukemia
8. lymphomas
9. sepsis of newborns
10. surgical sepsis

II. Mental and behavioral disorders:

1. acute psychosis, including alcoholic delirium
2. bipolar affective disorder
3. epilepsy
4. neurotic disorders
5. personality disorders
6. schizophrenia

III. Diseases of the nervous system:

1. chronic occupational injuries (vibration disease, occupational dyskinesias)
2. intracranial injury
3. meningitis, encephalitis
4. migraine and other types of headache
5. multiple sclerosis
6. perinatal encephalopathy
7. strokes (ischemic, hemorrhagic)
8. vertebrogenic diseases of the nervous system, neuropathy and polyneuropathy
9. violation of cerebral circulation
10. violation of the autonomic nervous system

IV. Eye diseases:

1. blepharitis
2. conjunctivitis
3. exophthalmos
4. foreign body of the organ of vision
5. glaucoma
6. retinopathy
7. trauma to the organ of vision

V. Diseases of the throat, ears, nose:

1. laryngitis

2. otitis
3. paratonsillar abscess
4. sinusitis
5. throat, ear, nose injuries
6. tonsillitis

VI. Diseases of the cardiovascular system:

1. acquired heart defects
2. acute occlusion of main and peripheral arteries;
3. aortic aneurysms
4. atherosclerosis
5. cardiomyopathy
6. Cardites
7. congenital heart defects
8. endocarditis
9. essential and secondary arterial hypertension
10. heart failure
11. heart rhythm and conduction disturbances
12. injuries of the heart and blood vessels
13. ischemic heart disease
14. obliterating endarteritis
15. pericarditis
16. phlebitis, thrombophlebitis
17. pulmonary embolism
18. pulmonary heart
19. secondary arterial hypertension
20. varicose veins of the lower extremities

VII. Diseases of respiratory organs and mediastinum:

1. acute respiratory distress syndrome
2. asphyxia
3. bronchial asthma
4. bronchiectatic disease
5. bronchitis
6. bronchopulmonary dysplasia
7. chest injuries (superficial, open)
8. chronic obstructive pulmonary disease
9. congenital malformations of respiratory organs
10. cystic fibrosis
11. foreign body in the respiratory tract
12. lung and mediastinal neoplasms
13. mediastinitis
14. infective and destructive lung diseases
15. pleuritis
16. pneumoconiosis
17. pneumonia
18. pneumothorax
19. pulmonary insufficiency
20. respiratory distress syndrome and pneumonia of newborns
21. respiratory failure

VIII. Diseases of digestive organs:

1. abdominal injuries (superficial, open)
2. acute and chronic appendicitis
3. acute and chronic hepatitis
4. acute and chronic pancreatitis
5. acute intestinal obstruction
6. benign diseases of the esophagus
7. cholecystitis, cholangitis, gallstone disease, choledocholithiasis
8. cirrhosis of the liver
9. congenital malformations of digestive organs
10. diseases of the operated stomach
11. enteritis, colitis
12. gastritis, duodenitis
13. gastroesophageal reflux disease, esophagitis
14. gastrointestinal bleeding
15. functional gastrointestinal disorders
16. inflammatory diseases of the rectum and perianal region
17. liver failure
18. malabsorption syndrome
19. neoplasms of the esophagus, stomach, colon, liver and pancreas
20. peptic ulcers of the stomach and duodenum
21. perforation of a hollow organ
22. peritonitis
23. pinched and unpinched abdominal hernias
24. prolapse of the rectum
25. stenosis of the pylorus of the stomach
26. ulcer disease

IX. Diseases of the urogenital system:

1. amyloidosis of the kidneys
2. balanitis, balanoposthitis
3. chronic kidney disease
4. congenital malformations of the urinary system

5. cystitis
6. dysmetabolic nephropathies
7. glomerulonephritis
8. neoplasms of the kidney, urinary tract and prostate gland
9. nephrotic syndrome
10. prostatitis
11. pyelonephritis
12. tubulointerstitial nephritis
13. urethritis
14. urolithiasis

X. Diseases of the skin and subcutaneous tissue:

1. allergic dermatoses (dermatitis, toxidermia, eczema)
2. bacterial diseases of the skin and subcutaneous tissue, pyoderma
3. bullous dermatoses
4. burns and frostbite
5. mycoses
6. parasitic skin diseases (scabies, lice)
7. psoriasis
8. purulent-inflammatory diseases in children and newborns
9. purulent-inflammatory diseases of fingers and hand
10. specific surgical infection (anaerobic clostridial and non-clostridial)

XI. Diseases of the musculoskeletal and connective tissue systems:

1. acute rheumatic fever
2. ankylosing spondyloarthritis
3. chronic rheumatic disease
4. congenital and acquired malformations of the musculoskeletal system
5. dermatomyositis and polymyositis
6. gout
7. injuries of large joints (hip, knee, ankle-foot, elbow)
8. juvenile rheumatoid arthritis
9. neoplasm of the musculoskeletal system
10. osteoarthritis
11. osteomyelitis
12. pelvis injury
13. polytrauma
14. reactive arthritis
15. rheumatoid arthritis
16. spine injury
17. systemic lupus erythematosus
18. systemic scleroderma
19. systemic vasculitis (polyarteritis nodosa, hemorrhagic vasculitis, hypersensitivity vasculitis)
20. typical fractures of the bones of the shoulder, forearm, hand, hip, leg, foot

XII. Diseases of the endocrine system, nutritional and metabolic disorders:

1. acromegaly and pituitary gigantism
2. chronic adrenal insufficiency
3. congenital dysfunction of the cortex of the adrenal glands
4. cryptorchidism
5. Cushing's disease and syndrome
6. diabetes insipidus
7. diabetes mellitus
8. dwarfism in a child born SGA
9. endemic goiter
10. genetic syndromes with endocrine complications: Turner syndrome, Russell-Silver, Prader-Willi, Laron syndrome, etc.)
11. hyperparathyroidism
12. hypogonadism
13. hypoparathyroidism
14. hypopituitarism
15. hypothyroidism
16. hypotrophy, protein-energy deficiency
17. Klinefelter's syndrome
18. neuro-endocrine tumors
19. nodular goiter, tumors of the thyroid gland
20. obesity
21. organic (including congenital) hyperinsulinism
22. premature sexual development
23. thyroiditis
24. thyrotoxicosis
25. tumors of the adrenal glands
26. tumors of the pituitary gland
27. violation of calcium-phosphorus metabolism, vitamin D metabolism
28. violation of gender differentiation

XIII. Infectious and parasitic diseases:

1. anthrax
2. bacterial food poisoning

3. botulism
4. candidiasis
5. chicken pox
6. chlamydial infections
7. cholera
8. congenital infections of the newborn
9. diphtheria
10. disease caused by human immunodeficiency virus (HIV)
11. erysipelas
12. especially dangerous viral infections
13. gonococcal infection
14. helminth infections
15. herpesvirus diseases
16. infectious mononucleosis
17. influenza and other acute respiratory viral infections
18. intestinal bacterial infections
19. intestinal viral infections
20. leptospirosis
21. Lyme disease
22. malaria
23. measles
24. meningococcal infection
25. mumps infection
26. pertussis
27. plague
28. poliomyelitis
29. protozoan infections
30. rabies
31. rickettsiosis
32. rubella
33. scarlet fever
34. syphilis
35. tetanus
36. tick-borne viral encephalitis
37. tuberculosis of different localization
38. viral hepatitis

XIV. Diseases of the female reproductive system:

1. abnormal uterine bleeding
2. abnormalities of the pelvis, including clinically narrow pelvis
3. anomalies of labor activity
4. benign and precancerous neoplasms of female genital organs
5. benign dysplasia of mammary glands
6. childbirth and postpartum bleeding
7. congenital malformations of the female genital organs
8. ectopic pregnancy
9. endometriosis
10. fetal distress during childbirth
11. fetal distress during pregnancy
12. fetal growth retardation
13. immune conflict during pregnancy
14. incorrect positions and presentation of the fetus
15. infertility
16. inflammatory diseases of female genital organs
17. injuries of the uterus and birth canal
18. malignant neoplasms of female genital organs
19. mastitis
20. multiple pregnancy
21. neoplasm of the mammary gland
22. ovarian apoplexy
23. placenta previa
24. postpartum septic diseases
25. preeclampsia and eclampsia
26. pregnancy with extragenital pathology
27. premature birth and delayed pregnancy
28. premature detachment of the placenta
29. spontaneous abortion
30. vesicular drift
31. vomiting of pregnant women

List 3 (emergencies)

1. asphyxia (including neonatal)
2. hypertensive crisis
3. hypoglycemia (coma)
4. acute respiratory failure
5. acute urinary retention
6. acute adrenal insufficiency
7. acute kidney damage
8. acute liver failure
9. acute heart failure
10. acute poisoning, including combat poisonous substances
11. acute psychosis
12. acute coronary syndrome
13. acute radiation and chemical damage, including in field conditions and emergency situations
14. acute cerebral insufficiency
15. diabetic coma, including ketoacidotic, hyperosmolar, lactacidemic
16. electric shock
17. status epilepticus
18. acute bleeding

19. syndrome of acute blood loss, including in field conditions and emergency situations
20. sudden cardiac arrest
21. collapse
22. loss of consciousness and comatose states
23. renal colic
24. biliary colic
25. acute anaphylactic reactions
26. acute heart rhythm disturbances,
27. cold injury, including in field conditions
28. thermal injury, including in field conditions
29. venous and arterial thromboembolism
30. convulsive syndrome
31. drowning
32. strangulation asphyxia
33. normal childbirth
34. shocks
35. bites of snakes, insects, animals
36. penetrating wounds, including during hostilities
37. burns, including in field conditions
38. foreign bodies of the respiratory tract, gastrointestinal tract, ENT organs and the eye

List 4 (laboratory and instrumental studies)

1.
2. alpha-amylase activity in blood and urine, fecal elastase 1
3. amplification methods for infectious diseases (PCR, LLR)
4. analysis of ascitic fluid
5. analysis of synovial fluid
6. blood alkaline phosphatase
7. blood aminotransferases
8. blood electrolytes
9. blood glucose, glycosylated hemoglobin,
10. blood hormones
11. blood lipids and lipoproteins and their fractions
12. blood proteins and their fractions, C-reactive protein
13. blood uric acid
14. chemical and bacteriological studies of the external human environment (atmospheric air, water bodies, soil).
15. chemical, organoleptic, bacteriological research of food products and drinking water
16. coagulogram
17. creatinine, blood and urine urea, glom.erular filtration rate
18. cytological examination of the cervix
19. echocardiography and PW doppler
20. endoscopic examination of bronchi
21. endoscopic examination of the digestive tract
22. express tests for viral diseases
23. general analysis of cerebrospinal fluid
24. general analysis of feces
25. general analysis of sputum
26. general analysis of sternal punctate
27. general analysis of urine
28. general blood test
29. general immunological blood profile
30. histomorphological examination of the placenta
31. histomorphological study of a biopsy of parenchymal organs
32. histomorphological study of biopsy of mucous membranes
33. histomorphological study of lymph node biopsy
34. histomorphological study of muscle and skin biopsy
35. measurement of ergonomic indicators of difficulty and intensity of work.
36. measurement of radiation (sound, vibration, ionizing), individual radiometry.
37. methods of instrumental visualization of abdominal organs
38. methods of instrumental visualization of chest cavity organs
39. methods of instrumental visualization of the breast

40. methods of instrumental visualization of the fetus
41. methods of instrumental visualization of the urogenital system
42. methods of instrumental visualization of the skull, spine, spinal cord, bones and joints
43. methods of instrumental visualization of the thyroid gland
44. microbiological research of biological fluids and secretions
45. multi-moment fractional study of bile and pH-metry of the stomach and esophagus
46. oral glucose tolerance test
47. pleural fluid analysis
48. serological reactions in autoimmune diseases
49. serological reactions in infectious diseases
50. serum ferritin, iron and copper
51. standard ECG (in 12 leads)
52. study of the function of external breathing
53. study of the internal environment of premises (indicators of microclimate, natural and artificial lighting, bacteriological and chemical air pollution).
54. sugar and acetone in urine
55. total blood bilirubin and its fractions
56. tuberculin diagnostics
57. urine analysis according to Nechiporenko
58. urine analysis according to Zimnytskyi
59. X-ray contrast angiography

List 5 (medical manipulations)

1. administer drugs (intravenous jet and drip, intraosseous), incl. in field conditions
2. apply hemostatic tourniquets and use hemostatic agents, including in field conditions
3. assess the state of sexual development of children
4. carry out a clinical examination of the mammary glands
5. carry out a digital examination of the prostate
6. carry out a digital examination of the rectum and with the help of a rectal mirror
7. carry out transport immobilization
8. determine blood groups, Rhesus affiliation
9. install a nasogastric and orogastric tube
10. measure blood pressure
11. palpate the thyroid gland
12. perform a bimanual examination and examination of a woman in mirrors
13. perform a pleural puncture
14. perform a puncture of the abdominal cavity through the posterior vault
15. perform artificial respiration
16. perform auscultation of the fetus
17. perform bladder catheterization with a soft probe
18. perform defibrillation using a manual automatic cardioverter defibrillator
19. perform indirect heart massage
20. perform pelviometry;
21. perform primary surgical treatment of the wound, dressing, removal of skin sutures, including in field conditions
22. perform the technique of "skin-to-skin" contact of the newborn and early attachment to the breast
23. provide peripheral venous access
24. register a standard 12-lead ECG
25. take swabs for bacterioscopic, bacteriological, cytological examination
26. to carry out a temporary stop external bleeding
27. to carry out anterior tamponade of the nose, to carry out a clinical examination of the organ of vision and ENT organs

28. to carry out external (Leopold techniques) and internal obstetric examination;
29. to conduct an examination and evaluation of the external genitalia of boys
30. to restore the patency of the respiratory tract
31. transfuse blood components and blood substitutes

Expected learning outcomes (ELO) that should be achieved by students after mastering the discipline "Simulation training (practice of internal medicine)":

ELO code	Expected learning outcomes of the discipline	PLO code
1	The ability to collect complaints, anamnesis and medical history, identify leading clinical symptoms and syndromes, prescribe and analyze additional examination methods used in therapeutic practice, perform them, determine the main clinical syndrome in patients and provide appropriate medical care, perform medical manipulations, determine tactics and provide urgent medical care in emergency situations.	4,5,7,8,14,17.
2	The ability to collect complaints, anamnesis and medical history, identify leading clinical symptoms and syndromes, prescribe and analyze additional examination methods used in surgical practice, perform them, determine the main clinical syndrome in patients and provide appropriate medical care, perform medical manipulations, to organize the provision of medical aid and medical evacuation measures to the population and military personnel in emergency situations.	4,5,7,8,15,17.
3	The ability to collect complaints, anamnesis and medical history, identify leading clinical symptoms and syndromes, prescribe and analyze additional examination methods used in obstetrics and gynecology, perform them, determine the main clinical syndrome in patients and perform them, determine the main clinical syndrome in patients and provide appropriate medical care, manage plan and tactics of physiological pregnancy, physiological childbirth and the postpartum period	4,5,7,8, 11.
4	The ability to collect complaints, anamnesis and medical history, identify leading clinical symptoms and syndromes, prescribe and analyze additional examination methods used in pediatrics practice, perform them, determine the main clinical syndrome in patients and perform them, determine the main clinical syndrome in patients and provide appropriate medical care, carry out an assessment of the general condition of a newborn child, assess and monitor the child's development.	4,5,7,8,12,13.

5. DIAGNOSTIC TOOLS AND EVALUATION CRITERIA OF LEARNING OUTCOMES

Means of assessment and methods of demonstrating learning outcomes

Means of assessment and methods of demonstrating learning outcomes in the discipline are:
ELO 1. – Demonstration of the ability to perform practical skills according to developed check-lists, oral response, performance of situational tasks.
ELO 2. – Demonstration of the ability to perform practical skills according to developed check-lists, oral response, performance of situational tasks.
ELO 3. – Demonstration of the ability to perform practical skills according to developed check-lists, oral response, performance of situational tasks.
ELO 4. – Demonstration of the ability to perform practical skills according to developed check-lists, oral response, performance of situational tasks.

Forms of control and criteria for learning outcomes evaluation

Forms of current control: (oral, demonstration of skills)
Form of module control: (oral)
Form of final semester control: (credit)

Distribution of points received by higher education seekers (module 1)

Current assessment and self-study					**Module test**	**Sum**
T1	T2	T3	T4	T5	50	**200**
30	30	30	30	30		

T1, T2 ... - topics

Evaluation of certain types of educational work in the discipline

Type of activity of the higher education seeker	**Module 1**	
	Number	Maximum number of points (total)
Laboratory classes (admission, completion and defense)	5	150
Module test	1	50
Total	**6**	**200**

Criteria for the final semester control evaluation

The final semester rating is calculated as the arithmetic average of one module. According to the Regulation on the assessment of students' educational achievements according to the credit-module system, if the final module grade is at least 120 points, then with the consent of the student, it can be counted as the final (semester) grade for the academic discipline. Students who are not satisfied with the final positive grades given by the teacher based on the results of module tests, as well as those who received "unsatisfactory" grades and at the same time have no unfulfilled practical (laboratory) classes, have the right to take a credit (exam) in the discipline. Full-time students are admitted to the final (semester) control of a specific discipline in the form of a credit or exam if, based on the results of the module tests, they scored at least 35 per cent of the possible points. Based on the results of the answers

given during the exam/credit, a grade is awarded according to a 200-point scale. Regardless of whether the student takes the exam (credit) because their final module grade is unsatisfactory (70-119 points) or to increase the positive grade, the teacher gives the student a grade based solely on the level of their knowledge, demonstrated during the exam (credit), that is, based on 200 points, but the final (semester) grade cannot be lower than the final module grade.

- the grade "*excellent*" (180-200 points, A) is awarded to students who: have comprehensive, systematic, and deep knowledge of educational and syllabus material; are able to independently perform the tasks prescribed by the syllabus, apply the acquired knowledge and skills in non-standard situations; learned the basic and familiarized themselves with the additional literature recommended by the program; mastered the interrelationship of the main concepts of the discipline and are aware of their importance for the profession they acquire; freely express their own opinions, independently evaluate various life phenomena and facts, revealing their personal position; independently determine the individual goals of their own educational activity, revealed creative abilities and used them when studying the syllabus material, as well as demonstrated interest to scientific work.
- grade "*good*" (164-179 points, B) is awarded to students who: have comprehensive, systematic, and deep knowledge of educational and syllabus material, including applying it in practice, have sufficient systematic knowledge in accordance with the syllabus material, apply it reasonably in different situations; have the ability to independently search for information, as well as to analyze, set and solve professionally oriented problems; while answering the exam/credit questions they might have some inaccuracies, with correcting those themselves. The student should also be able to choose convincing arguments to confirm the studied material;
- the grade "*good*" (148-163 points, C) is awarded to students who: completed the work in general, but during the final control make a certain number of mistakes; are able to compare, generalize, systematize information under the guidance of a teacher, in general independently apply it in practice, control their own activities; learned the curriculum material, successfully completed the tasks prescribed by the program, familiarized themselves with the basic literature recommended by the program;
- the grade "*satisfactory*" (128-147 points, D) is awarded to students who: know the basic syllabus material to the extent necessary for further study and its use in the future profession; perform tasks well, but with a significant number of errors; familiarized themselves with the basic literature recommended by the syllabus; make mistakes when completing tasks during classes or exams but find ways to correct them under the guidance of the teacher.
- the grade "*satisfactory*" (120-127 points, E) to students who: have basic knowledge of educational and syllabus material in the amount necessary for further study and its application in the future profession, and the performance of tasks meets the minimal criteria. Knowledge is reproductive in nature.
- grade "*unsatisfactory*" (70-119 points, FX) is awarded to students who: revealed significant gaps in the knowledge of the main syllabus material and made fundamental mistakes during the completion of tasks provided by the syllabus.
- grade "*unsatisfactory*" (0-69 points, F) is awarded to students who learned the educational material only at the level of elementary recognition and reproduction of individual facts or did not learn it at all; made gross errors when completing the tasks provided by the syllabus; cannot continue their studies and are not ready for professional activity after graduating from the university without re-studying this discipline.

6. SYLLABUS

6.1. The content of the discipline

Module 1

Topic 1. Practical training of internal medicine

Diseases of the blood and hematopoietic organs, disorders involving the immune mechanism

1. anemia
2. hemophilia

Diseases of the cardiovascular system:

3. atherosclerosis
4. acquired heart defects
5. secondary arterial hypertension
6. endocarditis
7. essential and secondary arterial hypertension
8. ischemic heart disease
9. cardiomyopathy
10. obliterating endarteritis
11. heart rhythm and conduction disturbances
12. heart failure
13. pulmonary embolism

Diseases of respiratory organs and mediastinum:

14. bronchial asthma
15. bronchitis
16. bronchiectatic disease
17. pulmonary insufficiency
18. pleuritis
19. pneumonia
20. chronic obstructive pulmonary disease

Diseases of digestive organs:

21. ulcer disease
22. gastroesophageal reflux disease, esophagitis
23. gastritis, duodenitis
24. acute and chronic hepatitis
25. enteritis, colitis
26. peptic ulcers of the stomach and duodenum
27. functional gastrointestinal disorders

Diseases of the musculoskeletal system and connective tissue:

28. ankylosing spondyloarthritis
29. chronic rheumatic disease

Diseases of the endocrine system, eating disorders and metabolic disorders:

30. obesity
31. diabetes mellitus

Infectious and parasitic diseases:

32. bacterial food poisoning
33. flu and other acute respiratory viral infections
34. intestinal viral infections

Topic 2. Practical training of emergencies in internal medicine

1. Emergency aid in case of panic attacks
2. Emergency aid in epileptic status
3. Emergency aid in loss of consciousness
4. Emergency aid in case of severe dehydration
5. Emergency aid in case of diphtheria pharyngitis

6. Emergency aid in case of meningococcal meningitis
7. Emergency aid in case of meningococcemia with infectious-toxic shock
8. Clinical death constatation
9. Emergency aid in case of severe hypoglycemia
10. Emergency aid in in diabetic ketoacidosis
11. Emergency aid in in case of hyperosmolar hyperglycemic syndrome
12. Emergency aid in case of biliary colic.
13. Emergency aid in acute attack of gout
14. Emergency aid in in case of hypokalemia
15. Emergency aid in case of hyperkalemia
16. Emergency prehospital aid in bleeding from esophageal varices
17. Emergency aid in local allergic reaction after a bee sting
18. Emergency aid in case of heatstroke
19. Emergency aid in acute kidney failure
20. Emergency aid in ventricular fibrillation.
21. Emergency aid in ventricular tachycardia without a pulse
22. Emergency aid in torsade de pointes
23. Emergency aid aid in case of angina pectoris with atrial fibrillation paroxysm on the ECG, history up to 4 years with stable hemodynamics and organic heart disease
24. Emergency aid in outpatient settings in case of an angina pectoris, with a paroxysm of atrial fibrillation on ECG, history up to 2 years and presence of severe organic heart disease
25. Use of non-pharmacological aids and pharmacotherapy in case of palpitations with supraventricular paroxysmal tachycardia on the ECG
26. Emergency prehospital care in acute coronary syndrome with ST segment elevation and possibility of transportation to the catheter laboratory in 2 hours after the moment of contact with the patient
27. Emergency hospital care for in acute coronary syndrome with ST segment elevation and absence of possibility to transportation to the catheter laboratory in 2 hours after the moment of contact with the patient
28. Emergency aid in uncomplicated hypertensive crisis in a patient with renal arteries stenosis and a tendency to bradycardia
29. Emergency aid in life threatening asthma (status asthmaticus)
30. Use of non-pharmacological emergency aid in case of paroxysmal supraventricular tachycardia on the ECG

Topic 3. Practical training of scheduled and emergency surgery

1. Demonstrate catheterization of the central vein (subclavian)
2. Demonstrate catheterization of the peripheral artery (radial)
3. Perform arterial catheterization according to Seldinger
4. Perform catheterization of the subclavian vein according to Seldinger
5. Perform catheterization of the central vein according to Seldinger
6. Perform catheterization of the peripheral vein with a large-diameter catheter
7. Perform intravenous infusion
8. Perform a puncture and catheterization of the epidural space
9. Perform a spinal puncture
10. Trocar installation for laparoscopic surgery
11. Demonstrate puncture of the pleural cavity
12. Perform bladder catheterization
13. Perform bladder catheterization. Connecting the system of continuous irrigation of the urinary bladder with physiological solution
14. Catheterization of the urinary bladder with a Thiman catheter
15. Perform the placement of nasogastric tube
16. Definition of the Moses symptom.
17. Definition of Homans symptom.

18. Definition of Lowenberg's symptom.
19. Perform the Troyanov-Trendelenburg functional test.
20. Perform the Delbe-Perthes functional test.
21. Carry out a functional test, the Sheinis three-wire test.
22. Applying an elastic bandage to the lower extremities for the prevention of thromboembolic complications.
23. Demonstrate determination of pulsation and auscultation of aorta abdominalis within anatomical landmarks.
24. Demonstrate determination of pulsation and auscultation of aa. Iliaca within anatomical landmarks.
25. Demonstrate determination of pulsation and auscultation aa. femoralis within anatomical landmarks.
26. To demonstrate the determination of a.poplitea pulsation within anatomical landmarks.
27. Demonstrate the definition of pulsation aa. pedis within anatomical landmarks.
28. Demonstrate determination of pulsation and auscultation of aa. carotis communis within anatomical landmarks.
29. Demonstrate determination of pulsation and auscultation of aa.temporalis superficialis within anatomical landmarks.
30. Demonstrate determination of pulsation and auscultation of aa. subclavia within anatomical landmarks.
31. Demonstrate the definition of pulsation aa. radialis within anatomical landmarks.
32. Determination of a sound signal by a conventional doppler (sensor) on a. dorsalis pedis and a. tibialis posteriors within anatomical landmarks
33. Determination of blood pressure on a. dorsalis pedis and on a. tibialis posterior
34. Determination of blood pressure on the upper limb
35. Calculation of KPI according to the formula
36. Perform a puncture of the knee joint for hemarthrosis
37. Conduct anesthesia and transport immobilization for a fracture of the right humerus
38. Conduct anesthesia and transport immobilization for a fracture of the proximal part of the right hip
39. Perform a skeletal extension of the femoral condyle in the case of a fracture of the right femur in the upper third
40. Demonstrate the application of skeletal traction for the calcaneus in the case of a fracture of both bones of the right tibia
41. Demonstrate closed reduction of a radius fracture in a typical location and fixation with a posterior plaster splint
42. Demonstrate closed reduction and fixation with a plaster splint of a closed posterior dislocation of the forearm
43. Demonstrate closed reduction and fixation with a palmar plaster splint for Smith's fracture
44. Perform closed reduction of closed posterior-superior dislocation of the head of the left femur according to Janelidze
45. Perform a closed reduction of a closed dislocation of the right humerus
46. Perform tracheal intubation
47. Perform a toilet of the tracheobronchial tree during aspiration of gastric contents
48. Perform cardiopulmonary resuscitation
49. Perform electrical defibrillation
50. Demonstrate Voskresensky's symptom
51. Demonstrate auscultation of intestinal peristalsis
52. Placement of a nasogastric tube
53. Demonstrate Murphy's symptom
54. Drainage of the subhepatic space through a contraperture and layer-by-layer suturing of the laparotomy wound
55. Demonstrate the Shttkin-Blumberg symptom
56. Demonstrate Rovzing's symptom

57. Perform laparocentesis
58. Decompress the stomach
59. Perform thoracentesis
60. Perform Zeldovich's test
61. Stabilize the cervical spine with a Schantz collar
62. Intubate the trachea
63. Perform laparocentesis with a search catheter
64. Demonstrate the drainage of the pleural cavity on the left
65. Perform a tracheostomy
66. Perform laparocentesis
67. Demonstrate drainage of the pleural cavity
68. Perform a decompression puncture of the pleural cavity
69. Apply the tourniquet to the limb
70. Perform a temporary stop of external bleeding a. carotid dexter
71. Perform a temporary stop of the external bleeding of the lower third a. brachialis.
72. Perform a temporary stop of external bleeding a.poplitea.
73. Perform a temporary stop of external bleeding in the lower third of a.femoralis.
74. Applying a tight bandage when bleeding from a trophic ulcer.
75. Determination of the presence of active and passive movements in the lower limb.
76. To determine the soreness of the lower legs by palpation in acute ischemia of the lower extremities.

Topic 4. Practical training of pediatrics

1. Assessment of the child's physical development and compliance with physiological parameters. Calculation of the required amount of food per day using the volumetric and caloric method for feeding infants.
2. Demonstration of an objective examination of a newborn, examination of neurological status on a mannequin.
3. Cardiopulmonary resuscitation: technique and necessity of medical and instrumental support during resuscitation, according to clinical instructions.
4. Demonstration of the technique of percussion and auscultation of the heart and lungs in children, the main pathological signs.
5. Interpretation of blood, urine, cerebrospinal fluid tests, X-ray examination, and ultrasound examination
6. Oxygen therapy, pulse oximetry, nebulizer therapy.

Topic 5. Practical training of obstetrics and gynecology

1. Carry out a mirror examination with taking a swab for cytological examination and a smear for flora
2. Conduct a bimanual examination of a patient with a uterine myoma up to 20 weeks in size.
3. Demonstrate a puncture through the posterior vault.
4. Measure the size of the pelvis and demonstrate Leopold's techniques in the main presentation.
5. Determine the expected weight of the fetus on the dummy with the determination of the expected weight of the fetus, determine the position, presentation and position of the fetus and the point of the maximum heartbeat of the fetus (on the dummy with 1 position of the front view of the head presentation of the fetus).
6. Demonstrate tactics for presentation of the umbilical cord and main presentation of the fetus (at full opening of the cervix).
7. Demonstrate manual separation of the placenta.
8. Demonstrate vaginal diagnosis of uterine pregnancy of 12 weeks.
9. Provide assistance with postpartum uterine bleeding (remains of the placenta).
10. Carry out perineal protection.
11. Perform a medial-lateral episotomy when there is a threat of perineal rupture and sew it up.

12. Suturing the perineal tear.
13. Carry out vacuum extraction of the fetus (head on the pelvic floor).
14. Reception of physiological childbirth - 2nd period.
15. Demonstrate management of the 3rd stage of labor.
16. Primary treatment of a newborn.
17. Manual assistance for incomplete breech presentation - Tsovyanov-1.
18. Manual assistance according to the classic method.
19. Removal of the fetal head according to Morisot-Levre-LaChapelle.
20. Operative vaginal delivery - output obstetric forceps.
21. Carrying out endometrial aspiration biopsy.
22. Choose a set of tools for performing a puncture of the posterior vault.
23. Carry out cardiotocography of the fetus in the main presentation of the II position.
24. Insertion and removal of Dr. Arabin's obstetric discharge pessary.
25. Choose a set of tools for applying a cerclage to the cervix in case of isthmic-cervical insufficiency.
26. Insertion and removal of an intrauterine contraceptive.
27. Providing obstetric care for dystocia of the fetal shoulders.
28. Assessment of cervical maturity.
29. To demonstrate the biomechanism of childbirth with 1 position of the front view of the occipital presentation.
30. To demonstrate the biomechanism of childbirth in the 1st position of the anterior view of incomplete breech presentation

6.2. The structure of the discipline

Titles of content modules and topics	Number of hours					
	Form of study:					
	Total	including				
		lectures	practical classes (seminars)	laboratory classes	individual work	self-Study
12 semester						
Module 1						
Topic 1. Practical training of internal medicine	18		6			12
Topic 2. Practical training of emergencies in internal medicine	18		6			12
Topic 3. Practical training of scheduled and emergency surgery	18		6			12
Topic 4. Practical training of pediatrics	18		6			12
Topic 5. Practical training of obstetrics and gynecology	18		6			12
Module test						
Total for the module	90		30			60

6.3. Topics of practical (seminars, laboratory) classes

№ .	Topic title	Number hours	
		Full-time study	Extramural form of study
1	Practical training of internal medicine	12	
2	Practical training of emergencies in internal medicine	12	
3	Practical training of scheduled and emergency surgery	12	
4	Practical training of pediatrics	12	
5	Practical training of obstetrics and gynecology	12	
	Total		**60**

6.4. Self-study

№ .	Topic title	Number hours	
		Full-time study	Extramural form of study
1	Self-study of practical skills of internal medicine	6	
2	Self-study of practical skills of emergencies in internal medicine	6	
3	Self-study of practical skills of scheduled and emergency surgery	6	
4	Self-study of practical skills of pediatrics	6	
5	Self-study of practical skills of obstetrics and gynecology	6	
	Total	30	

7. TOOLS, EQUIPMENT AND SOFTWARE THE USE OF WHICH IS PROVIDED FOR THE EDUCATIONAL SUBJECT

Technical equipment/tools:

1. Mobile remote mannequin of a woman SUSIE S 2000;
2. Mannequin for Intubation/Defibrillation/ECG/CPR with advanced life support system CODE BLUE III, Adult HAL 300.100;
3. Universal exerciser for carrying out activities on the upper respiratory tract in the newborn PEDI S 320;
4. Advanced mannequin HAL S 315.400 for restoring the patency of the respiratory tract;
5. HAL S 1020 12-lead ECG practice mannequin;
6. Mannequin Combat Trauma HAL;
7. NOELLE S 550 - Maternal Care Patient Simulator with OMNI;
8. SUPER OB SUSIE S 500.300 /Training for childbirth Tors;
9. Advanced OB Susie S 500.200 - Childbirth Skills Trainer;
10. ZOE S 504.200 - Gynecological Skills Trainer;
11. Brayden Pro;
12. Mannequin Brayden Baby.

Equipment: medical tools and products, mock-ups of medical devices, which are necessary to perform practical skills.

Software for working with mannequins.

8. RECOMMENDED SOURCES OF INFORMATION

Basic sources

1. Current Medical Diagnosis & Treatment. 61st edition. Edited by Maxine A. Papadakis, Stephen J. McPhee, MD, Michael W. Rabow, Kenneth R. McQuaid. - McGraw-Hill Education. - 2019. - 801p.
2. Baye´s de Luna, Antoni, Fiol-Sala, M. (Miquel), Genis, A. Baye´s, Baranchuk, Adrian. Clinical electrocardiography : a textbook. Fifth edition. / Antoni Baye´s de Luna, Miquel FiolSala, Antoni Baye´s-Geni´s, Adria´n Baranchuk; with contributions from Roberto Elosua, Manuel Marti´nez-Selle´s. - Hoboken, NJ : Wiley, 2022. - 1617 p.
3. Critical Care Examination and Board Review. McGraw-Hill Education. - 2022. - 801p.

Additional sources

1. Andrew Blann. Routine Blood Results Explained, the 4th edition (2021). Cambridge Scholars Publishing. - 172 p.
2. Andreoli and Carpenter's Cecil essentials of medicine (2016) / editor-in-chief, Ivor J. Benjamin, editors, Robert C. Griggs, Edward J. Wing, J. Gregory Fitz.—9th edition. - Elseiver . - 1325 p.
3. Oxford Handbook of Clinical and Laboratory Investigation. Edited by Drew Provan. Oxford University Press, 2018. - 1007 p.
4. Cotes' Lung Function, 7th Edition. Edited by Robert L. Maynard, Sarah J. Pearce, Benoit Nemery, Peter D. Wagner, Brendan G. Cooper (2020). - Willey Blackwell. - 775 p.
5. Disaster and Respiratory Diseases. Edited by Keisaku Fujimoto. - Springer Nature Singapore Pte Ltd, 2019. - 175 p.
6. Image-Guided Management of COVID-19 Lung Disease. Edited by Robert L. Bard. - Springer Nature Singapore Pte Ltd, 2021. - 163 p.
7. Oxford Handbook of Endocrinology and Diabetes, 4th edition. Edited by Katharine Owen, Helen Turner, John Wass. Oxford University Press, 2022. - 1130 p.

Information Internet resources

1. Practical Clinical Skills. Lessons, Quizzes, Guides
https://www.practicalclinicalskills.com
2. Peer Teacher Training in health professional education
https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-020-02284-1
3. Essential Practical Skills in Internal Medicine For students of higher medical educational institutions Edited by the Corresponding member of National Academy of Medical Sciences of Ukraine, M.D., Ph.D., Professor Tetyana Pertseva
https://repo.dma.dp.ua/3934/1/Practical_Skills_IM_2.pdf

Appendix

Results of the further review of the syllabus

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix___).

(underline the correct variant)

Minutes № ____ of "____" _____ 20 ___ Head of the Department _____ _____

(Signature) (Surname, initials)

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix ___).

(underline the correct variant)

Minutes № ____ of "____" _____ 20 __ Head of the Department _____ _____

(Signature) (Surname, initials)

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix ___).

(underline the correct variant)

Minutes № ____ of "____" _____ 20 ___ Head of the Department _____ _____

(Signature) (Surname, initials)

The syllabus was re-approved on 20___ / 20___ academic year unchanged; with changes (Appendix___).

(underline the correct variant)

Minutes № ____ of "____" _____ 20 ___ Head of the Department _____ _____

(Signature) (Surname, initials)