

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

Petro Mohyla Black Sea National University

Medical Institute

Department of Surgical Disciplines

"APPROVED"

first vice-rector

Ishchenko N.M.

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CURRICULUM OF THE TRAINING DISCIPLINE

SURGERY

Specialty 222 "Medicine"

Developer

Head of the Department

Guarantor of Educational Program

Director of the Institute

Head of TDD

Nedieliiev O.I.

Zack M.U.

Klymenko M.O.

Hryshchenko H.V.

Shkirchak S.I.

Description of training discipline

Name of the indicator	discipline profile	
Name of discipline	Surgery, including pediatric surgery, with an in-depth study of cardiac surgery	
field of expertise	22 "Health".	
specialty	222 "Medicine"	
Specialization (if any)		
education programme	Surgery	
Level of higher education	Master	
discipline status	Normative	
training course	Year 6	
school year	2021/2022	
Semester numbers:	Daytime Form	extramural form
	11th, 12th.	
Total number of ECTS credits / hour	10 credits (6/4) / 300 hours	
Course Structure: – lectures – practical exercises – hours of students' independent work	Daytime Form	extramural form
	-	
	150 (90/60) hours 150 (90/60) hours	
Percentage of class workload	50%; independent work of students 50%	
Language of instruction	English	
Form of intermediate control (if any)	Attestation for the 11th semester	
Form of final control	Credit - 12th semester	

2. Goal, objectives and planned learning outcomes

purpose: assimilation of theoretical and practical knowledge of etiology, pathogenesis, clinic of typical and atypical symptomatology of surgical diseases of certain nosology, methods of diagnostics, conservative and operative treatment, rehabilitation of surgical pathology according to training program of general practitioner.

Learning objectives: acquisition of competence, knowledge, skills and abilities by the student to carry out professional activities in the specialty

- To assimilate the anatomical and physiological features of the thoracic cavity and endocrinology;
- Interpret the etiology, pathogenesis and classification, clinical presentation of diseases of the thoracic cavity and endocrinology;
- determine methods of diagnostics, methods of conservative and surgical treatment of the mentioned diseases;
- determine the indications and contra indications for lung and heart transplantation;
- Define the principles of postoperative treatment and rehabilitation of patients with endocrine organ and thoracic cavity pathology;
- to learn the risk factors for complications;
- interpret the results of laboratory and instrumental examination;
- Demonstrate mastery of the moral and ethical principles of a medical specialist and the principles of professional subordination in surgery;
- to carry out prognosis of life and prognosis of prognosis of life and prognosis of prognosis of these surgical diseases;
- Interpret the general principles of treatment, rehabilitation and prevention of surgical diseases of the endocrine organs and thoracic cavity;
- Demonstrate proficiency in medical record keeping in the surgical clinic;
- provide emergency medical care for urgent surgical diseases of the thoracic cavity.
- learn the anatomical and physiological features of the vascular system;
- Interpret the etiology, pathogenesis and classification, clinical presentation of diseases of the vascular system;
- Identify methods of diagnosis, methods of conservative and surgical treatment of diseases of the vascular system and injuries of great vessels;
- to highlight the principles of postoperative treatment and rehabilitation of patients with vascular pathology;
- identify risk factors for complications;
- interpret the results of laboratory and instrumental examination;
- Demonstrate mastery of the moral and ethical principles of a medical specialist and the principles of professional subordination in surgery;
- perform prognosis of life and disability in surgical diseases of the vascular system;
- interpret the general principles of treatment, rehabilitation and prevention of the most common surgical diseases of the vascular system;
- Demonstrate proficiency in medical record keeping in the surgical clinic;
- Provide emergency medical care in urgent conditions of surgical diseases of the vascular system (trauma of the main vessels).

Expected learning outcomes. As a result of studying the discipline students should:

- to know:

- etiological and pathogenetic factors of the most common surgical diseases according to OKC list 1;
- various clinical variants and complications of the most common surgical diseases of the thoracic cavity, cardiovascular and endocrine systems;
- Diagnostic and treatment algorithm of medical care for emergency conditions in the clinic of surgical diseases;
- indications and against indications for surgical interventions in elective and urgent thoracic, cardiovascular, endocrine surgery, management of the postoperative period;
- know the indications and contra indications for lung and heart transplantation;

- To be able to:

- Identify the most common clinical symptoms and syndromes in the thoracic, cardiovascular, endocrine surgery clinic
- diagnose and provide medical care for emergencies in the clinic of thoracic, cardiovascular, endocrine surgery
- Demonstrate mastery of the moral and ethical principles of medical specialist and the principles of professional subordination in surgery
- Interpret the general principles of treatment, rehabilitation and prevention of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Perform prognosis of life and disability in the most common diseases of thoracic, cardiovascular, endocrine surgery
- Identify the main etiological and pathogenetic factors of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Classify and analyze the typical clinical picture of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Make an examination plan and analyze the data of laboratory and instrumental examinations in the typical course of the most common diseases of thoracic, cardiovascular, endocrine surgery
- Determine indications and against indications for surgical interventions in elective and urgent thoracic, cardiovascular, endocrine surgery
- Determine post-operative management tactics, prescribe the necessary treatment
- Demonstrate ability to perform necessary medical manipulations

- ***have competencies.*** The developed program corresponds to the educational and professional program (EPP) and focuses on the formation of competencies:

- *general (GK) - GK1 to GK3 of the SRB:*

- ability to think abstractly, analyze and synthesize; ability to learn and master modern knowledge;
- ability to apply knowledge in practical situations;
- knowledge and understanding of the subject area and understanding of professional activities;

- *professional competencies (FC) - FC1-9, 11, 14, 15, 18 RPF*

- Patient Interviewing Skills.
- ability to determine the required list of laboratory and instrumental examinations and to evaluate their results.
- ability to establish a preliminary and clinical diagnosis of the disease.
- the ability to determine the necessary work and rest regimes for the treatment of diseases.
- the ability to determine the nature of nutrition in the treatment of diseases.
- the ability to determine the principles and nature of disease management.
- ability to diagnose emergencies.

- the ability to determine emergency medical care tactics.
- Emergency medical care skills.
- Skills in performing medical manipulations.
- ability to carry out sanitary and preventive measures.
- ability to plan and carry out preventive and anti-epidemic measures for infectious diseases.

The program developed is consistent with and focused on the formation and delivery of program learning outcomes (PLO): PBL11; 13-18; 22; 25; 28; 30; 32; 33; 35; 41 PLO.

<p>PLO 11</p>	<p>Collect data on patient complaints, medical history, life history (including professional anamnesis), in conditions of health care facility, its unit or at home of the patient, using the results of the interview with the patient, according to the standard scheme of interviewing the patient. In all circumstances (in a health care facility, its unit, at the patient's home, etc.), using knowledge of the person, his organs and systems, according to certain algorithms: collect information about the patient's general condition (consciousness, constitution) and physical appearance (examination of skin, subcutaneous fat globules, palpation of lymph nodes, thyroid and mammary glands); assess the child's psychomotor and physical development; examination of the cardiovascular system (examination and palpation of the heart and superficial vessels, determination of percussion boundaries of the heart and vessels, auscultation of the heart and vessels) examine the respiratory system (chest and upper respiratory tract examination, palpation of the chest, percussion and auscultation of the lungs) examine the condition of the abdominal organs (abdominal examination, palpation and percussion of the intestines, stomach, liver, spleen, palpation of the pyloric gland, kidneys, pelvic organs, palpation of the rectum); examine the musculoskeletal system (examination and palpation) to examine the condition of the nervous system; examine the condition of the genitourinary system; assess the state of fetal intrauterine development with fetal weight and fetal heartbeat auscultation.</p>
<p>PLO 13</p>	<p>In the setting of a health-care facility, its subdivision and among the attached population: Identify and report the leading clinical symptom or syndrome (List 1) by making an informed decision using initial patient history, physical examination data, knowledge of the person, his or her organs and systems, and adhering to appropriate ethical and legal standards. Be able to establish the most probable or syndromic diagnosis Diagnose the most likely or syndromic case (List 2) by making an informed decision, comparing standards, using initial history and physical examination data, based on the leading clinical symptom or syndrome, using knowledge of the individual, his/her organs and systems, and adhering to appropriate ethical and legal guidelines.</p>
<p>PLO 14</p>	<p>In the setting of a health care facility, its subdivision: - • Prescribe laboratory and/or instrumental examination of the patient (according to list 4) by making an informed decision, based on the most probable or syndromic diagnosis, according to a standardized scheme, using knowledge of the person, its organs and systems, adhering to relevant ethical and legal rules. - • Carry out differential diagnosis of diseases (list 2) by making an informed decision, according to a certain algorithm, using the most probable or syndromic diagnosis, given a laboratory and instrumental examination of the patient, knowledge of the person, his organs and systems, adhering to relevant ethical and legal standards.</p>

	- • Establish a provisional clinical diagnosis (List 2) by informed decision-making and logical analysis using the most probable or syndromic diagnosis, laboratory and instrumental examination of the patient, findings of referential diagnosis, knowledge of the person, his or her organs and systems, and appropriate ethical and legal standards.
PLO 15	Determine appropriate work and rest patterns for the treatment of illness (List 2) in the health care setting, in the patient's home and during medical evacuation phases, including in the field, based on a preliminary clinical diagnosis, using knowledge of the person, their organs and systems, following appropriate ethical and legal standards, by making informed decisions based on existing algorithms and standard schemes.
PLO 16	Determine appropriate therapeutic nutrition for disease management (List 2), in the healthcare setting, in the patient's home and during medical evacuation phases, including. In the field based on a preliminary clinical diagnosis, using knowledge of the person, his/her organs and systems, adhering to relevant ethical and legal standards, by making informed decisions based on existing algorithms and standard schemes.
PLO 17	Determine the nature of treatment (conservative, surgical) of the disease (list 2), in the health care facility, at the patient's home and during medical evacuation, including the stages of medical evacuation. In the field based on a preliminary clinical diagnosis, using knowledge of the person, its organs and systems, adhering to the relevant ethical and legal standards, by making an informed decision on the existing algorithms and standard schemes. Determine principles of disease management (List 2), in the health care setting, at home and during medical evacuations, including in the field. In the field, based on a preliminary clinical diagnosis, using knowledge of the person, his/her organs and systems, adhering to relevant ethical and legal standards, by making informed decisions based on existing algorithms and standard schemes.
PLO 18	Establish a diagnosis (List 3) by making an informed decision and assessment of the person's condition, in all circumstances (home, street, health facility, its unit), including in an emergency, in the field, under conditions of lack of information and limited time, using standard techniques of physical examination and possible anamnesis, knowledge of the person, its organs and systems, adhering to relevant ethical and legal standards.
PLO 22	Perform medical manipulations (list 5) in a facility, home or workplace setting based on a preliminary clinical diagnosis and/or patient measures, using knowledge of the person, their organs and systems, adhering to appropriate ethical and legal standards, by making informed decisions and using standard techniques.
PLO 25	Shape, in the context of a health care facility, its units in the workplace, using a generalized human health assessment procedure, knowledge of the human being, its organs and systems, adhering to appropriate ethical and legal standards, by making informed decisions, among the assigned population : dispensary groups of patients; groups of healthy people subject to dispensary monitoring (Newborns, children, adolescents, pregnant women, representatives of professions, must undergo compulsory dispensary monitoring).
PLO 28	Organize secondary and tertiary prevention activities among the assigned population using a generalized health assessment procedure (screening, preventive health examinations, seeking medical care), knowledge of the human being, its organs and systems, adhering to relevant ethical and legal standards, by making informed decisions, in the health facility setting in particular: form dispensary observation groups; organize therapeutic and recreational activities differentiated by the dispensary group.

PLO 30	Carry out in the setting of a health care facility, its subdivision: - • Detection and early diagnosis of infectious diseases (according to list2) * primary anti-epidemic measures in the focus of infectious disease.
PLO 32	In a health care facility or in the patient's home, based on the patient's health status, using standardized charts, using knowledge of the person, their organs and systems, adhering to appropriate ethical and legal standards, by making an informed decision: determine the tactics of examination and secondary prevention of patients, to be subject to dispensary observation; Determine screening and primary prevention tactics for healthy individuals subject to dispensary care; calculate and prescribe appropriate foods for infants and toddlers.
PLO 33	Determine the presence and degree of disability, type, degree and duration of disability with registration of appropriate documents, in the conditions of health care facilities on the basis of data on the disease and its course, the peculiarities of professional activity of the person.
PLO 35	In the service area according to standard descriptive, analytical epidemiological and medico-statistical research methods: conduct screening for major non-communicable diseases; assess in dynamics and in comparison with statistical averages the indicators of morbidity, including chronic non-infectious diseases, disability, mortality, integral health indicators; Identify risk factors for the occurrence and course of diseases; form at-risk populations.
PLO 41	In the setting of a health care facility or its subdivision, according to standard methods: select and use evidence-based unified clinical protocols for the delivery of health care; Participate in the development of local medical protocols; conduct quality control of health care based on statistical data, expert assessment and sociological data using structure, process and outcome indicators; identify barriers to improving the quality and safety of medical care.

3. Programme of study discipline

The educational process is organized according to the European Credit Transfer and Accumulation System (ECTS).

The curriculum of the discipline consists of two blocks:

Block 1: General surgical issues

sections:

1. general part
2. Diseases of the thoracic organs
3. Diseases of the abdominal cavity organs
4. Vascular and endocrine diseases

Block 2 Pediatric surgery, cardiac surgery

sections:

1. general part
2. Diseases of the thoracic organs
3. Surgical heart pathology

unit 1

1. general part

Theme 1: History of surgery in Ukraine. Organization of surgical care in Ukraine. Ethics and deontology in surgery. Sepsis in surgical patients. Systemic inflammatory response syndrome. Pathogenesis, significance in various diseases and injuries, principles of diagnosis and treatment. The rules of antibiotic therapy in the prevention and treatment of surgical infection.

Theme 2. Modern surgical trauma in disasters, emergencies and combat situations, principles of evacuation measures. Stages of medical evacuation. Classification of traumas, pathomorphology of the wound process, clinical presentation, treatment of gunshot wounds. Primary and secondary surgical treatment of wounds.

Topic 3. Critical conditions in surgical patients: multiple organ failure syndrome, acute respiratory distress syndrome, acute cardiovascular failure syndrome, acute renal failure, acute liver failure. AIDS in surgical clinic: peculiarities of examination and surgical treatment of patients. Prevention of intraoperative trauma and infection in surgeons.

Topic 4. Features of the course of surgical diseases in pregnant women and the elderly. Diagnosis and differential diagnosis of acute diseases of the abdominal cavity, features of the examination, surgical tactics, prevention of preterm birth.

2. Diseases of the thoracic organs

Topic 5. Damage to the thoracic cavity organs. Clinic and diagnosis of pneumothorax, hemothorax and chylothorax, treatment tactics. Diagnostic program for cardiac injury. The triad of cardiac injury symptoms, clinical and diagnostic and therapeutic and surgical program for cardiac injuries.

Topic 6. Surgical pathology of pulmonary tapeworm. Principles of diagnosis and tactics and choice of treatment methods. Etiology and pathogenesis: pulmonary abscess, abscessed pneumonia. Purulent diseases of skin and soft tissues. Mastitis. Classification, clinic, diagnosis, differential diagnosis, methods of conservative and surgical treatment

3. Diseases of the abdominal cavity organs

Topic 7: Traumatic injury of the abdomen. Symptomatology of the abdominal trauma Abdominal and retroperitoneal organs, methods of diagnosis, treatment tactics. Bleeding from the digestive tract. Causes of occurrence, diagnosis and differential diagnosis, treatment tactics.

Topic 8: Acute abdominal syndrome. Diagnosis, differential diagnosis and treatment tactics. Differential diagnosis of acute diseases of the abdominal cavity.

Topic 9. local tarozpovsyuzhdeni purulent-inflammatory Processes of the abdominal cavity organs and peritoneum. Etiology, Pathogenesis, Clinic, Classification (Saveliev V.S. et al.) Phase of the process, Complications. The methods of investigation of the patients. Differential diagnosis and treatment.

Topic 10. Mechanical jaundice. Causes of occurrence, differential and diagnostic tactics. Functional, instrumental methods of research in diseases of the liver, extrahepatic bile ducts, pancreas. Modern principles of treatment. Liver failure in surgical diseases, methods of prevention and treatment.

Topic 11. Focal liver lesions. Simple cysts. Echinococcosis (echinococcal cysts) of the liver, liver abscess (inflammatory liver cysts), Traumatic liver cysts (hematoma, Billoma, seroma). Hemangioma of the liver. Clinical manifestations, methods of diagnosis, traditional surgical and minimally invasive treatment of patients.

Topic 12. Gallstone disease. Clinic, diagnostics Diagnostics and treatment tactics. Cholecystectomy: types of surgical access, surgical technique. Modern surgical technique. Postcholecystectomy syndrome. Pilyagastroresectomy and pilyavagotomni syndromes. Clinic, diagnostics and treatment tactics. lung abscess, pangrene. Bronchiectatic disease. Etiology, pathogenesis. Classification. Symptomatology and clinical course.

Topic 13. Differential diagnosis and treatment of diseases of the rectum and PARARECTAL space. Acute and chronic hemorrhoids (etiology, pathogenesis, clinic, features of clinical manifestations of different stages of hemorrhoids, methods of examination, differential diagnosis, conservative and surgical treatment, types of operations). Acute and chronic proctitis

(etiology, pathogenesis, clinic, methods of investigation, differential diagnosis, conservative and operative treatment). Anal fissure, anal itching.

Section 4: Vascular and endocrine diseases

Topic 14. arterial and venous thrombosis and embolism. Syndrome of limb ischemia. Causes of occurrence, clinic, differential diagnosis, conservative therapy and methods of surgical treatment. Prevention of venous thrombosis. Differential diagnosis and treatment of acute vascular thrombosis.

Topic 15. Differential diagnosis and treatment of diseases of the thyroid and parathyroid glands. Differential diagnosis and treatment of adrenal tumors. Diagnostic program. Clinical-diagnostic and therapeutic-surgical program. Rehabilitation of patients.

Block 2 Pediatric surgery, cardiac surgery

1. general part

Topic 16. Pediatric surgery as a specialty. Organization and current state of surgical care for children. Surgical department of a polyclinic. Structure of the department. The equipment of its premises. States. Sanitary and preventive work. Features of the organization of outpatient surgery. Pediatric surgical service of the region, the country. Modern methods of examination in pediatric surgery: laboratory, instrumental. Principles of rehabilitation of surgical, orthopedic, urologic and traumatologic patients at polyclinic level.

Topic 17. Child traumatism. Its structure. Features of childhood traumatism. Prevention of domestic, street, school and sports traumatism. Blood and blood substitutes transfusion. Infusion therapy. Indications and contraindications. Complications of blood transfusion. Combat hemotransfusion shock.

Topic 18. Emergency conditions in pediatric surgery. Clinical classification of respiratory failure. Principles of emergency care in respiratory failure. The main clinical manifestations of cardiovascular insufficiency. Differentiation of cardiovascular insufficiency depending on its type and cause of occurrence. General principles of treatment of cardiovascular insufficiency. The main clinical manifestations of renal failure in children. Algorithm of actions of the doctor in acute and chronic renal failure in children. Basic clinical manifestations of cerebral edema. Algorithm of physician's actions in case of cerebral edema

2. Diseases of the thoracic organs

Topic 19. Bronchiectatic disease. Classification of bronchiectasis in children. The main clinical symptoms of bronchiectasis in children. Diagnostic methods of bronchiectasis in children. Conservative and surgical treatment of bronchiectasis in children. Preoperative preparation and postoperative management of the patients. Rehabilitation of patients. Destructive pneumonias. Etiology and microbiology of destructive pneumonias in children. Classification of destructive pneumonias in children. Main clinical symptoms of destructive pneumonia in children. Diagnostic methods of destructive pneumonia in children. Conservative and surgical treatment of complications of destructive pneumonia in children. Preoperative preparation and postoperative management of patients. Rehabilitation of patients.

Topic 20. Pneumothorax. Piopneumothorax. Diagnostics. Principles of treatment. Etiology and microbiology of pneumothorax and pyopneumothorax in children. Classification of pneumothorax and pyopneumothorax. Main clinical symptoms of pneumothorax and pyopneumothorax. Diagnostic methods of pneumothorax and pyopneumothorax. Treatment of pneumothorax and pyopneumothorax in children. Preoperative preparation and postoperative management of patients. Rehabilitation of patients. Trauma of the thorax. Hemothorax. Peculiarities of trauma of the thorax in children. Closed injury of the thorax in children. Closed injury of the thoracic cavity in children. Open trauma of the thorax in children Treatment.

Theme 21. Trauma of the thorax and thoracic cavity organs. Definition of basic concepts. Etiology. Pathogenesis. Classification. Clinic. Psychological features of the patients. The course. Complications. Methods of investigation, diagnosis, differential diagnosis. Surgical tactics. The

principles of surgical treatment. Methods of surgical interventions. Methods of sanitation of the tracheobronchial tree. Puncture of pleural cavity. Drainage of the pleural cavity. Consequences of surgical treatment. Damage to the esophagus, burns and foreign bodies.

3. Surgical heart pathology

Topic 22. Surgical pathology of the heart. Isthmic heart disease. Classification. Clinic. Diagnostics. Indications for coronarography. Indications for surgical treatment. Methods of surgical interventions. Modern methods of diagnosis and minimally invasive treatment of heart disease. Heart transplantation. Complications of myocardial infarction: acute mitral insufficiency, postinfarction interventricular septal defect, heart aneurysm, heart rhythm disorders. Indications for surgical treatment. Methods of surgical interventions.

Topic 23. Acquired heart defects. Etiology. Classification of acquired heart defects. Clinic and diagnosis of mitral, aortic and tricuspid heart disease. Differential diagnostics. Indications for surgical treatment. Methods of surgical interventions. Congenital heart defects. Classification of congenital heart disease. Clinic and diagnosis of patent ductus arteriosus, defects of interatrial and interventricular septa, Fallo's tetrad, coarctation of the aorta, pulmonary artery stenosis, transposition of great vessels. Differential diagnostics. Indications for surgical treatment. Methods of surgical interventions. Cardiothoracic transplantation. **Topic 24.** Surgical pathology of the mediastinum. Diseases of the mediastinum. Tumors and cysts of the mediastinum. Classification. Clinical symptoms and syndromes. Methods of diagnostics. Differential diagnostics. Surgical treatment tactics. Principles of surgical treatment. Diseases and traumatic damage of the esophagus. Hernia of esophageal orifice of diaphragm. Clinic, diagnosis, treatment.

Topic 25. Pericardial disorders. Exudative and constrictive pericarditis. Clinical symptoms. Diagnostic program and therapeutic tactics. Gostritis mediastinitis. Etiology, pathogenesis. Clinic, diagnostics, treatment.

Structure of the training discipline

Module and topic names	number of hours						
	daytime form						
	total	including but not limited to					
		I	II	lab.	CPC	and that's it.	
1	2	3	4	5	6	7	
Block #1. General issues of surgery							
1. general part							
Topic 1. History of surgery in Ukraine. Organization of surgical care in Ukraine. Ethics and deontology in surgery. Sepsis in surgical patients. Systemic inflammatory response syndrome. Pathogenesis, significance in various diseases and injuries, principles of diagnosis and treatment		-	6				Individual work - scientific literature review or experimental study
Theme 2 Modern surgical trauma in disasters, emergencies and combat situations, principles		-	6				

of evacuation measures. Stages of medical evacuation. Classification of traumas, pathomorphology of the wound process, clinical presentation, treatment of gunshot wounds. Primary and secondary surgical treatment of wounds.						
Topic 3 Critical conditions in surgical patients: multiple organ failure syndrome, acute respiratory distress syndrome, acute cardiovascular failure syndrome, acute renal failure, acute liver failure. AIDS in the surgical clinic		-	6			
Topic 4. Features of the course of surgical diseases in pregnant women and the elderly. Diagnosis and differential diagnosis of acute diseases of the abdominal cavity			6			
2. Diseases of the thoracic organs						
Topic 5. Damage to the thoracic cavity organs. Clinic and diagnosis of pneumothorax, hemothorax and chylothorax, treatment tactics. Diagnostic program for cardiac injury. The triad of symptoms of cardiac injury,		-	6			Individual work - scientific literature review or experimental study
Topic 6. Surgical pathology of lungs and pleura. Principles of diagnosis and tactics and choice of treatment methods. Etiology and pathogenesis: pulmonary abscess, abscessed pneumonia. Purulent diseases of skin and soft tissues. Mastitis. Classification, clinic, diagnosis, differential diagnosis, methods of conservative and surgical treatment		-	6			
3. Diseases of the abdominal cavity organs						
Theme 7. abdominal trauma. symptomatology of abdominal injuries. Abdominal and retroperitoneal organs injuries, diagnostic methods and treatment tactics. Bleeding from the digestive tract. Causes of occurrence, diagnosis and differential diagnosis, treatment		-	6			Individual work - scientific literature review or experimental

tactics.					
Topic 8: Acute abdominal syndrome. Diagnosis, differential diagnosis and treatment tactics. Differential diagnosis of acute diseases of the abdominal cavity.		-	6		
Topic 9. Local and widespread purulent inflammatory processes of the abdominal cavity and peritoneum. Etiology, pathogenesis, clinic, classification		-	6		
Topic 10. Mechanical jaundice. Causes of occurrence, differential and diagnostic tactics. Functional, instrumental methods of research in diseases of the liver, extrahepatic bile ducts, pancreas		-	6		
Topic 11. Focal liver lesions Simple cysts, Echinococcosis (echinococcal cysts) of the liver, Liver abscess (inflammatory liver cysts), Traumatic liver cysts (hematoma, Billoma, seroma) Liver hemangioma		-	6		
Topic 12. Biliary stone disease. Clinic, diagnosis and treatment tactics. Choecystectomy: types of surgical approaches, surgical technique. Modern surgical technique. Postcholecystectomy syndrome.		-	6		
Topic 13. Differential diagnosis and treatment of diseases of the rectum and PARARECTAL space. Acute and chronic hemorrhoids (etiology, pathogenesis, clinic, features of clinical manifestations of different stages of hemorrhoids, methods of examination, differential diagnosis, conservative and surgical treatment, types of operations).		-	6		
Section 4: Vascular and endocrine diseases					
Topic 14. arterial and venous thrombosis and embolism. Syndrome of limb ischemia. Causes of occurrence, clinic, differential diagnosis, conservative therapy and methods of surgical treatment		-	6		

Individual work - scientific literature review or experimental study

Topic 15. Differential diagnosis and treatment of diseases of the thyroid and parathyroid glands. Differential diagnosis and treatment of adrenal tumors. Diagnostic program. Clinical-diagnostic and therapeutic-surgical program. Rehabilitation of patients.		-	4			
Final control work			2			
Total: 180 hours			90		90	
Block 2 Pediatric surgery, cardiac surgery						
1. general part						
Topic 16. Pediatric surgery as a specialty. Organization and current state of surgical care for children. Surgical department of a polyclinic. Structure of the department. The equipment of its premises. States. Sanitary and preventive work. Features of the organization of ambulatory-polyclinic surgery. Children's surgical service of the region, the country.			6			
Topic 17. Child traumatism. Its structure. Features of childhood traumatism. Prevention of domestic, street, school and sports traumatism. Blood transfusion and blood substitutes. Infusion therapy. Indications and contraindications.			6			
Topic 18. Emergency conditions in pediatric surgery. Clinical classification of respiratory failure. Principles of emergency care in respiratory failure. The main clinical manifestations of cardiovascular insufficiency. Differentiation of cardiovascular insufficiency depending on its type and cause.			6			
2. Diseases of the thoracic organs						
Topic 19. Bronchiectatic disease. Classification of bronchiectasis in children. The main clinical symptoms of bronchiectasis in children. Diagnostic methods of bronchiectasis in children. Conservative and surgical treatment of bronchiectasis in children. Preoperative			6			

preparation and postoperative management of patients.						
Topic 20. Pneumothorax. Piopneumothorax. Diagnostics. Principles of treatment. Etiology and microbiology of pneumothorax and pyopneumothorax in children. Classification of pneumothorax and pyopneumothorax. Main clinical symptoms of pneumothorax and pyopneumothorax. Diagnostic methods of pneumothorax and pyopneumothorax. Treatment of pneumothorax and pyopneumothorax in children.			6			
Topic 21. Trauma of the thorax and thoracic cavity organs. Definition of basic concepts. Etiology. Pathogenesis. Classification. Clinic. Psychological features of the patients. The course. Complications. Methods of investigation, diagnosis, differential diagnosis. Surgical tactics. The principles of surgical treatment. Methods of surgical interventions. Methods of sanitation of the tracheobronchial tree. Puncture of pleural cavity. Drainage of the pleural cavity. Consequences of surgical treatment.			6			
3. Surgical heart pathology.						
Topic 22. Surgical pathology of the heart. Isthmic heart disease. Classification. Clinic. Diagnostics. Indications for coronarography. Indications for surgical treatment. Methods of surgical interventions. Modern methods of diagnosis and minimally invasive treatment of heart disease. Heart transplantation. Complications of myocardial infarction. Indications for surgical treatment. Methods of surgical interventions.			6			
Topic 23. acquired heart defects. Etiology. Classification of acquired heart defects. Clinic and diagnosis of mitral, aortic and			6			

tricuspid heart disease. Differential diagnostics. Indications for surgical treatment. Methods of surgical interventions. Congenital heart defects. Classification of congenital heart disease. Clinic and diagnosis of patent ductus arteriosus, defects of interatrial and interventricular septa, Fallo's tetrad, coarctation of the aorta, pulmonary artery stenosis, transposition of the great vessels.						
Topic 24. Surgical pathology of the mediastinum. Diseases of the mediastinum. Tumors and cysts of the mediastinum. Classification. Clinical symptoms and syndromes. Methods of diagnostics. Differential diagnostics. Surgical treatment tactics. Principles of surgical treatment. Diseases and traumatic damage of the esophagus. Hernia of esophageal orifice of diaphragm. Clinic, diagnosis, treatment.			6			
Topic 25. Pericardial disorders. Exudative and constrictive pericarditis. Clinical symptoms. Diagnostic program and therapeutic tactics. Gastritis mediastinitis. Etiology, pathogenesis. Clinic, diagnostics, treatment.			4			
Final control work 2			2			
Total: 120 hours			60		60	
Total (block 1 - 2) - 300 hours. UST credits - 10						

4. Content of the training discipline

4.1 Practical lesson plan

N o. of ite ms .	Topic of the practical session	teaching hours
Block 1: General surgical issues		
1.	Topic 1. History of surgery in Ukraine. Organization of surgical care in	6

	Ukraine	
2.	Theme 2 Modern surgical trauma in disasters, emergencies and combat situations, principles of evacuation measures	6
3.	Topic 3 Critical conditions in surgical patients: multiple organ failure syndrome, acute respiratory distress syndrome, acute cardiovascular failure syndrome	6
4.	Topic 4: Peculiarities of the course of surgical diseases in pregnant and elderly people	6
	2. Diseases of the thoracic organs	
5.	Topic 5. Damage to the thoracic cavity organs. Clinic and diagnosis of pneumothorax, hemothorax and chylothorax, treatment tactics	6
6.	Topic 6. Surgical pathology of pulmonary tapeworm. Clinic and diagnosis	6
	3. Diseases of the abdominal cavity organs	
7.	Topic 7: Abdominal injuries. Symptomatology of abdominal injuries	6
8.	Topic 8: Acute abdominal syndrome. Diagnosis, differential diagnosis and treatment tactics.	6
9.	Topic 9. Local pyoinflammatory processes of the organs of the abdominal cavity and peritoneum.	6
10.	Topic 10. Mechanical jaundice. Causes of occurrence, differential diagnostic tactics	6
11.	Topic 11. Focal liver lesions Simple cysts. echinococcosis	6
12.	Topic 12. Biliary stone disease. Clinic, diagnosis and treatment tactics	6
13.	Topic 13. Differential diagnosis and treatment of diseases of the rectum and PARARECTAL space.	6
	Section 4 Vascular and endocrine disorders	
14.	Topic 14. arterial and venous thrombosis and embolism. Ischemic limb syndrome.	6
15.	Topic 15. Differential diagnosis and treatment of diseases of the thyroid and parathyroid glands adrenal tumors.	4
16.	Final control work No. 1	2
	together	90
Block 2 Pediatric surgery, cardiac surgery		
	1. general issues of pediatric surgery	
17.	Topic 16. Pediatric surgery as a specialty. Organization and current state of surgical care for children. Surgical department of the polyclinic. structure of the department.	6
18.	Topic 17. Child traumatism. Its structure. Features of childhood traumatism	6
19.	Topic 18. Emergency conditions in pediatric surgery. Clinical classification of respiratory failure.	6
	2. Diseases of the thoracic organs	
20.	Topic 19. Bronchiectatic disease. Classification of bronchiectasis in children	6
21.	Topic 20. Pneumothorax. Piopneumothorax. Diagnostics. Principles of treatment	6
22.	Theme 21. Trauma of the thorax and thoracic cavity organs.	6
	3. Surgical heart pathology	
23.	Topic 22. Surgical pathology of the heart. I ischemic heart disease.	6

24.	Topic 23. acquired heart defects.	6
25.	Topic 24. Surgical pathology of the mediastinum. Diseases of the mediastinum. Tumors and cysts of the mediastinum.	6
26.	Topic 25. Pericardial disorders. Exudative and constrictive pericarditis. Clinical symptoms. Diagnostic program and therapeutic tactics. Acute mediastinitis. Etiology, pathogenesis. Clinic, diagnosis, treatment.	4
27	Final control work No. 2	2
	Together:	60
	Total (Blocks 1 - 2)	150

4.2 Plan of students' independent work

№	topic	quantity hours	view controls
1.	Preparation for the practical exercises. Theoretical training and practical skills training.	38	
2.	Independent study of the topics that are not included in the plan of classroom lessons: 1. Differential diagnosis of gastrointestinal bleeding; 2. Functional, instrumental methods of investigation in diseases of the stomach, small and large intestine; 3. Suchasni methods of diagnostics and treatment of diseases of cardiovascular and respiratory systems; 4. Transplantology. General provisions. Transplantation of kidney, heart, liver, pancreas; 5. Surgical complications in patients with infectious pathology. 6. Differential diagnosis between acute surgical and infectious diseases 7. Differential diagnosis and treatment of mediastinal diseases; 8. The syndrome of chest pain, respiratory and heart failure in the diagnosis and differential diagnosis of diseases of the chest cavity; 9. Anticoagulant and thrombolytic therapy in acute thrombosis. Prophylactic anticoagulant therapy; 10. Differential diagnosis, prevention and treatment of acute ulcer of the digestive tract; 11. evaluation of limb pain syndrome in the diagnosis and differential diagnosis of vascular diseases, lesions of the nervous system and pathology of the musculoskeletal system.	79	Current control in the classroom
3.	Individual independent work of students: 1. A review of the scientific literature of choice; 2. Work in the student scientific circle; 3. Participation in competitions and Olympiads on surgery; 4. Participation in the writing of a research paper or report; 5. Patient management.	33	
in total:		150	

Typical test problems to be solved in practical classes:

Test Assignment No. 0

option number 0

1. Examination of a 38-year-old patient G. with a knife wound of the thorax revealed that the wound is "breathing" - a "whistling" is heard, and when breathing in, air exits the wound, when breathing out it enters the pleural cavity. What complication did the patient have?
A Open pneumothorax
B Valvular pneumothorax
C Rib fracture
D Wounds to the heart
E Closed pneumothorax
2. Task: a young man, 20 years old, stab wound of the chest. The position is forced, in the fifth intercostal space "i case - incised wound measuring 3x1 cm, from which frothy blood flows, and during exhalation air suction is heard. What should be performed at the scene?
A Apply an occlusive dressing
B Apply a circular dressing
C Apply a spike dressing
D Apply a cross dressing
E Apply a spiral dressing
3. A patient has come to the hospital complaining of pain in the perineum and the outflow tract, fever. The pain increases with movement and defecation. Objectively: examination of the perineum revealed an oval-shaped red bulge 3 cm from the anus, sharply painful, with softening in the centre. Which of the therapeutic measures is the most effective in this case?
A Dissection and drainage of the pus
B Massive antibiotic therapy
C Detoxification therapy
D UHF
E Demicidal and other medicinal solution compresses
4. You were called to a patient 40 years old, suffering from peptic ulcer disease after physical exertion suddenly had "dagger" pain in epigastric region, tension of anterior abdominal wall muscles, positive Schetkin-Blumberg's symptom. What is the probable diagnosis?
A perforated peptic ulcer
B Gastric bleeding
C Peritonitis
D Eventuation
E Penetration
5. A 56-year-old patient complains of constant pain in the right subcostal area, nausea, vomiting, increased body temperature. On palpation pronounced painfulness and muscle tension in the right subcostal area, positive Ortner's symptom. What disease should a paramedic think about?
A Acute cholecystitis
B Acute hepatitis
C Acute appendicitis
D a perforated peptic ulcer
E Right-sided pleuropneumonia
6. a patient has been diagnosed with open pneumothorax. What should be done first to improve his condition?
A Apply an occlusive dressing

- B Apply a spiral dressing
- C Apply a deso bandage
- D Administer respiratory analeptics.
- E Apply a cross dressing

7. You have been called to a patient of 30 years of age. Four hours ago, pain appeared in the epigastric region, which after 8:00 moved to the right iliac region, there was a single vomiting. Muscles in the iliac area were tense, pronounced symptoms of peritoneal irritation. Your preliminary diagnosis:

- A Acute appendicitis
- B Acute cholecystitis
- C Acute adnexitis
- D Right-sided renal colic
- E Liver colic

8. A 42-year-old woman K. with massive blood loss, pulse rate - 120/min, BP 90/50 mm Hg has been admitted to the hospital. Which blood substitute should be used to stabilize blood pressure during first aid?

- A Reopolyglucin solution
- B Albumin C Ringer-Locke's rn
- D 5% glucose solution
- E Saline solution

9. A 33-year-old patient was delivered to the hospital on a stretcher, who an hour ago, after a quarrel with his wife, suddenly experienced "piercing" abdominal pain, vomiting, general weakness. On examination: skin pale, BP 80/60 mm Hg, pulse - 100 / min. On palpation the abdomen is "Board-like", positive Schetkin-Blumberg's symptom. Which is the most appropriate emergency treatment?

- A Cold on the abdomen, immediate hospitalization
- B Painkillers, hospitalization
- C Antispasmodics, hospitalization
- D Painkillers, outpatient care
- E Outpatient care

10. Patient K., 35 y.o., complains of frequent cold feet, pain in the calf muscles, intensifying while walking. Believes he has been sick for the last 3 years. Smoker. On examination - skin on the feet is cold, pale. Pulsation of the arteries of the feet is weak in both legs. What do these symptoms indicate?

- A Obliterative endarteritis
- B Varicose veins
- C obliterating atherosclerosis
- D Mouth
- E Raynaud's disease

4.4 Ensuring the educational process

Lectures are provided with technical support:

- computer
- projection screen
- multimedia projector
- presentation materials (lectures)

Practical exercises:

- the "Maxim-3" simulator dummy
- simulators in \ venous injections, bladder catheterization, blood pressure measurement.
- clinical site, bedside

5. Final control

List of questions for final control (credit)

1. Diagnostic program for cardiac injury. The triad of cardiac injury symptoms.
2. Beck's triad, which is characteristic of cardiac tamponade.
3. Why the clinical diagnostic and therapeutic and surgical program for cardiac injury should be integrated into a single process.
4. Surgical tactics for cardiac injury.
5. How quickly and where should you perform X-ray examination, ultrasound of the chest cavity, ECG, clinical and biological blood and urine tests, determination of blood group, rhesus factor, hematocrit, CVD, CIC in a victim with a heart wound?
6. Mechanism of valve pneumothorax.
7. Clinical picture of valve pneumothorax.
8. Therapeutic tactics for valvular pneumothorax.
9. The most common sources of bleeding into the chest cavity.
10. Diagnostic program for hemothorax.
11. Clinical presentation of small, medium and large hemothorax.
12. Basic principles of treatment program in traumatic hemothorax.
13. Clinical presentation of lung wounds.
14. Conservative and surgical treatment of lung wounds.
15. Clinical and diagnostic program of acute appendicitis.
16. Differential diagnosis of acute appendicitis with kidney disease, uterine appendages, enterocolitis, food poisoning, pleuropneumonia.
17. Surgical tactics in acute appendicitis.
18. Clinical and diagnostic program of impinged hernias.
19. Differential diagnosis of pinched inguinal hernia with orchioepididymitis, acute dropsy of the spermatic cord and testicular sheath.
20. Differential diagnosis of impinged femoral hernia with inflammation of the femoral lymph nodes, abscess, sharply revealed nodular vein dilation in the area of the femoral triangle.
21. Surgical tactics for impinged hernia.
22. Phases of clinical course of perforative gastric and duodenal ulcer.
23. Clinical and diagnostic program of perforating gastric and duodenal ulcer.
24. Differential diagnosis of perforative gastric and duodenal ulcer with acute cholecystitis, pancreatitis, acute intestinal obstruction.
25. Surgical tactics in perforative gastric and duodenal ulcer.
26. Clinical and diagnostic program in mechanical acute intestinal obstruction.
27. Classification of acute intestinal obstruction.
28. Differential diagnosis of acute intestinal obstruction with mesenteric embolism thrombosis, food toxicosis.
29. Surgical tactics in acute intestinal obstruction.
30. Clinical and diagnostic program in acute cholecystitis.
31. Complications of acute cholecystitis.
32. Surgical tactics in acute cholecystitis.
33. Clinical and diagnostic program in acute pancreatitis.
34. Surgical tactics in acute pancreatitis.
35. Clinical and diagnostic program in acute mesenteric circulation disorder.
36. Surgical tactics in acute mesenteric circulation disorder.
37. Clinical and diagnostic program in acute colonic obstruction.

38. Surgical tactics in acute obstruction of the colon.
39. What is the extent of surgical intervention for a peptic anastomosis ulcer
40. Define Mallory-Weiss syndrome.
41. Complaints in patients with Mallory-Weiss syndrome?
42. What are the objective manifestations of Mallory-Weiss syndrome?
43. What methodologies are used to refine the diagnosis of Mallory-Weiss syndrome?

44. What diseases should be diagnosed with Mallory-Weiss syndrome?
45. Therapeutic tactics for Mallory-Weiss syndrome.
46. What are the indications for surgical treatment of Mallory-Weiss syndrome?
47. Etiology and pathogenesis of gastrointestinal bleeding.
48. Methods of examination of patients with gastrointestinal bleeding.
49. Classification of ulcerative bleeding.
50. Clinic of gastrointestinal bleeding.
51. Differential diagnosis of ulcerative bleeding.
52. Peculiarities of the course of gastroduodenal ulcer bleeding depending on the degree of its activity.
53. Features of the clinical course of active bleeding.
54. Peculiarities of the clinical course of ulcerative bleeding that has stopped.
55. Techniques for sewing up an ulcer that is bleeding.
56. Selection of the method of stopping bleeding depending on the degree of its activity.
57. Indications for conservative treatment of ulcerative bleeding.
58. Gastrointestinal bleeding therapy.
59. Methods of endoscopic hemostasis and indications for their use.
60. Methods of operative interventions for ulcerative bleeding.
61. The choice of surgical intervention method depending on the patient's condition, the intensity of bleeding, the degree of blood loss, ulcer localization.
62. Peculiarities of surgical techniques in case of ulcerative bleeding.
63. Uskladnenie uravneniyu opredeleniya pryvikonannomu pryvikonanii operativnykh interventions for ulcer hemorrhage.
64. Treatment of complications in the early postoperative period when performing surgical interventions for ulcerous bleeding.
65. Peculiarities of management of patients with peptic ulcer bleeding in the early and late postoperative period.
66. General principles of diagnosis in acute gastrointestinal bleeding.
67. General principles of infusion and transfusion therapy of acute gastrointestinal bleeding.
68. Surgical tactics in acute gastrointestinal bleeding.
69. Clinical and diagnostic program for ectopic pregnancy.
70. Surgical tactics for ectopic pregnancy.
71. Clinical and diagnostic program of liver damage, extrahepatic biliary tract, gallbladder.
72. Surgical tactics for liver injury.
73. Clinical and diagnostic program of spleen injury.
74. Surgical tactics for spleen injury.
75. Clinical and diagnostic program of pancreatic injury.
76. Surgical tactics for pancreatic injury.
77. Clinical and diagnostic program of damage to the stomach, duodenum.
78. Surgical tactics for damage to the stomach, duodenum.
79. Clinical and diagnostic program of small and large intestine injury.
80. Surgical tactics for small and large intestine injuries.
81. Clinical and diagnostic program of hemorrhagic shock.
82. Clinical picture of hemorrhagic shock depending on the stage.
83. Treatment of hemorrhagic shock.
84. Clinical picture of toxic-infectious shock.
85. Treatment of toxic-infectious shock.

86. Clinical picture of acute respiratory failure.
87. Treatment of respiratory failure.
88. Clinical manifestations and diagnostic methods of pulmonary artery branch thromboembolism.
89. Treatment of various forms of pulmonary embolism.
90. Clinical and diagnostic program for aortic arch syndrome.
91. Treatment of aortic arch syndrome.
92. Clinical and diagnostic program for Raynaud's syndrome.
93. Treatment of Raynaud's syndrome.
94. Clinical and diagnostic program of multifocal atherosclerosis.
95. Treatment of atherosclerosis of cerebral arteries, coronary, renal, mesenteric arteries and arteries of lower extremities.
96. Clinic and diagnosis of abdominal aortic aneurysms.
97. Isthmian heart disease. Classification. Clinic. Diagnostics.
98. Indications for surgical treatment of CHD. Methods of surgical interventions.
99. Modern methods of diagnosis and minimally invasive treatment of heart disease. Heart transplantation.
100. Complications of myocardial infarction: acute mitral insufficiency, postinfarction interventricular septal defect, cardiac aneurysm, heart rhythm disorders.
101. Indications for surgical treatment of myocardial infarction. Methods of surgical interventions.
102. Acquired heart defects. Etiology. Classification of acquired heart defects.
103. Clinic and diagnosis of mitral, aortic and tricuspid heart disease.
104. Indications for surgical treatment of heart defects. Methods of surgical interventions.
105. Congenital heart defects. Classification of congenital heart defects.
106. Clinic and diagnosis of patent ductus arteriosus, interatrial and interventricular septal defects, Fallo's tetrad, coarctation of the aorta, pulmonary artery stenosis, transposition of the great vessels. Differential diagnosis.
107. Indications for surgical treatment of patent ductus arteriosus, defects of interatrial and interventricular septa. Methods of surgical interventions.
108. Cardiothoracic transplant.
109. Surgical pathology of mediastinum. Diseases of the mediastinum.
110. Tumors and cysts of the mediastinum. Classification. Clinical symptoms and syndromes.
111. Tumors and cysts of mediastinum. Methods of diagnostics. Differential diagnosis.
112. Principles of surgical treatment of mediastinal tumors.
113. Pericardial disease. Exudative and constrictive pericarditis.
114. Clinical symptoms. Diagnostic program and treatment tactics of pericardial disease.
115. Acute mediastinitis. Etiology, pathogenesis. Clinic, diagnosis, treatment.
116. Diseases and traumatic injuries of the esophagus.
117. Benign tumors and cysts, foreign bodies, burns and mechanical trauma of esophagus, cicatricial narrowing of esophagus.
118. Gastroesophageal reflux disease and Barrett's esophagus.
119. Hernia of the esophageal orifice of the diaphragm. Clinic, diagnosis, treatment.
120. Differential diagnosis, prevention and treatment of acute ulcer of the digestive tract

"0" version of the credit card

Petro Mohyla Black Sea National University

Educational qualification level - master

Knowledge Sector: 22 Health care

Specialty 222 Medicine

Training discipline - Surgery, including pediatric surgery, with an in-depth study of cardiac surgery

Option No. 0

1. acquired heart defects. Etiology. Classification of acquired heart defects.
(The maximum number of points is 15).
2. Emergency conditions in pediatric surgery. Clinical classification of respiratory failure.
Principles of emergency care in respiratory failure.
(The maximum number of points is 15).
3. acute and chronic hemorrhoids (etiology, pathogenesis, clinic, features of clinical manifestations of different stages of development
(The maximum number of points is 15).
4. Bronchiectatic disease. Classification of bronchiectasis in children
(The maximum number of points is 15).
5. You are an emergency physician, a surgeon. A patient is admitted to the hospital with a cut wound to the right thigh. The injury was sustained at 2:00 a.m. Objectively: there is a linear incised wound on the anterior surface of the femur up to 12 cm in length. Mild bleeding. An improvised tourniquet is applied in the upper third of the wound. What is your tactic and sequence of action? Explain your actions.
(The maximum number of points is 20).

Approved at the meeting of the Department of surgical disciplines, Minutes № ____ of " ____ " _____ 2021

Head of the Department: Professor Tarasenko O.N.

examiner: _____

6. Assessment criteria and means of diagnostics of learning outcomes

methods of control

- Questioning (testing of theoretical knowledge and practical skills).
- Test control.
- Writing reviews of scientific literature (abstracts), performance of individual assignments, their defense.

Current control. Check in practical classes of theoretical knowledge and assimilation of practical skills, as well as the results of independent work of students. Supervised by teachers in accordance with the specific objectives of the curriculum. Assessment of the level of training of students is carried out by: questioning students, solving and analysis of situational tasks and test tasks, interpretation of the results of clinical and instrumental and clinical and laboratory research, control of assimilation of practical skills.

Intermediate control. Check the students' ability to use for clinical-diagnostic analysis received theoretical knowledge and practical skills on all studied topics, as well as the results of students' independent work. Carried out at the last class on the topic / section by passing the practical skills, solving situational tasks and testing.

The final control work (MCW) is carried out at the end of the study of all the topics of the block at the last control session of the semester. The students who have attended all the lectures, classroom studies, completed the self-study in full and collected a number of points not less than the minimum - 70 points in the first block and 40 points in the second block are allowed to have a final control work.

Distribution of points awarded to students

In the first block, a positive grade for each topic can be from 4.7 to 8 points. A grade lower than 4.7 points means "unsatisfactory", the topic is not enrolled and is subject to workout in the established order. A student can receive a maximum of 80 points on the PKR for Block 1. A PKR is considered to be enrolled if a student scores at least 50 points.

In the second block, a positive grade for each topic can be from 4 to 8 points. A grade below 4 points means "unsatisfactory", the topic is not enrolled and must be worked out in the established order. A student can receive a maximum of 40 points on the PKR for Block 2. A PKR is considered to be enrolled if a student scores at least 30 points.

In order to assess the learning outcomes of the whole discipline, a final control in the form of credit is carried out. Only the students who are assigned both TQFs (on block 1 and 2) on the discipline are allowed to pass the test. A student can get a maximum of 80 points on the credit. Credit is considered credited if a student received at least 50 points. Distribution of points on the credit - see above in the example of the credit ticket.

Assessment of student performance

Type of activity (tasks)	Maximum number of points
unit 1	
Topic 1	8
Topic 2	8
Topic 3	8
Topic 4	8
Topic 5	8
Topic 6	8
Topic 7	8
Topic 8	8
Topic 9	8
Topic 10	8
Topic 11	8
Topic 12	8
Topic 13	8
Topic 14	8
Topic 15	8
together	120
RPC on Block 1	80
Together with Block 1	200
unit 2	
Topic 1	8
Topic 2	8
Topic 3	8
Topic 4	8
Topic 5	8
Topic 6	8
Topic 7	8
Topic 8	8
Topic 9	8
Topic 10	8

together	80
PKR for Block 2	40
Together with Block 2	120
credit	80
Together with Block 2 and credit	200

Knowledge assessment criteria

A grade of 7.1-8 in units 1 and 2, 71-80 in PCR 1, 38-40 in PCR 2 and 71-80 in credit (A on ECTS scale and 5 on national scale) a student's answer is graded if she demonstrates profound knowledge of all theoretical statements and the ability to apply theoretical material for practical analysis and has no inaccuracies.

A grade of 6.1-7 in the first and second units, 61-70 points in PKR #1, 35-37 points in PKR #2 and 61-70 points for credit (B and C on ECTS scale and 4 on national scale) the answer is awarded if it shows the knowledge of all theoretical provisions, ability to apply them in practice, but some principal inaccuracies are allowed.

A grade of 4.7-6 in Unit 1, 4-6 in Unit 2, 50-60 in PCR Unit 1, 30-34 in PCR Unit 2, and 50-60 in the credit (D and E on ECTS scale and 3 on national scale) is awarded, provided the student knows the main theoretical points and can use them in practice.

7. Recommended literature

Main

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More

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