

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.

" " 2021

**CURRICULUM OF THE TRAINING DISCIPLINE**

**SURGERY**

Specialty 222 "Medicine"

Developer

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Head of the Department

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### Description of training discipline

Name of the indicator	Characteristics of the discipline	
Name of discipline	Surgery	
Area of expertise	22 "Health".	
Specialty	222 "Medicine"	
Specialization (if any)	Not available	
Educational program	Surgery	
Level of higher education	Master	
Discipline status	Regulatory	
Training course	Year 4, 5, 6	
School year	2021/2022	
Semester numbers:	Daytime Form	Extramural form
	7, 8 9, 10 11,12	Not available
Total number of ECTS credits/hours	22 credits / 660 hours	
Course Structure: – lectures – seminar classes (practical, laboratory, semi-group) – hours of students' independent work	Daytime Form	Extramural form
	30 hours	-
	330 hours 300 hours	- -
Percentage of class workload	54%; CPC 46%	
Language of instruction	English	
Form of intermediate control (if any)	Final Block Control (FBC)	
Form of final control	8, 10 semester - Exam 12 semester - Credit	

## 2. Purpose, objectives and outcomes of the discipline

The general purpose of teaching the discipline "Surgery" is to acquire theoretical and practical knowledge on the etiology, pathogenesis, typical and atypical clinical manifestations, methods of diagnosis, conservative and surgical treatment, rehabilitation of surgical diseases of the abdominal cavity within the limits corresponding to the training of a doctor of his specialty

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

- Know the main etiological and pathogenetic causes of the more common surgical diseases of the abdominal cavity.
- Know the classification and typical clinical presentation of the most common surgical diseases of the abdominal cavity.
- Be able to identify the most common clinical symptoms and syndromes in the clinic of surgical diseases of the abdominal cavity.
- Be able to make a plan of examination and analysis of the results of laboratory and instrumental examinations in the typical course of the most common surgical diseases of the abdominal cavity.
- Be able to interpret the general principles of treatment, rehabilitation and prevention of the most common surgical diseases of the abdominal cavity.
- Know the moral and deontological principles of the medical specialist and the principles of professional subordination in abdominal surgery.
- To be able to determine the tactics of management (principles of surgical interventions and conservative treatment, rehabilitation measures) for the most common surgical diseases of the abdominal cavity and their complications.
- Be able to perform necessary medical manipulations in surgical diseases of the abdominal cavity.
- Be able to diagnose and treat emergency conditions in abdominal surgery.
- Be able to make prognosis of life and performance in the most common surgical diseases of the abdominal cavity.
- Understand the anatomical and physiological features of the thoracic and endocrine organs;
- Interpret the etiology, pathogenesis and classification, clinical presentation of diseases of the thoracic cavity and endocrinology;
- to determine diagnostic methods, algorithms of conservative and surgical treatment of these diseases;
- identify indications and contraindications for lung and heart transplantation;
- Determine the principles of postoperative treatment and rehabilitation of patients with endocrine organ and thoracic cavity pathology;
- Understand 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;
- Carry out prognosis of life and performance in the specified 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;
- to determine diagnostic methods, algorithms of conservative and surgical treatment of vascular diseases 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).

**Prerequisites for the study of the discipline (interdisciplinary connections).**

The discipline "Surgery" is based on the knowledge acquired by students in the study of such fundamental disciplines as anatomy, histology, physiology, pathological anatomy, pathological physiology, propaedeutics of internal medicine, pharmacology, topographical anatomy and operative surgery. Laying the foundation for the study of clinical surgery, traumatology and orthopedics, urology, neurosurgery, obstetrics, gynecology, anesthesiology, intensive care and other academic disciplines involving surgical methods of treatment.

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

- Identify the most common clinical symptoms and syndromes in the clinic of surgical diseases
- Diagnose and treat emergencies in the surgical clinic
- Demonstrate mastery of the moral and ethical principles of a medical specialist and the principles of professional subordination in surgery
- Interpret the general principles of treatment, rehabilitation and prevention of the most common surgical diseases
- Carry out prognosis of life and performance in the most common surgical diseases
- Identify the main etiological and pathogenetic factors of the most common surgical diseases
- Classify and analyze the typical clinical presentation of the most common surgical diseases
- Develop an examination plan and analyze laboratory and instrumental examinations for the typical course of the most common surgical diseases
- Demonstrate ability to perform necessary medical manipulations
- Conduct primary and secondary prevention of the most common surgical diseases
- Provide emergency medical care for the most common surgical conditions
- Carry out differential diagnosis, justify and formulate a preliminary diagnosis in the most common surgical diseases
- Demonstrate mastery of the moral and ethical principles of a medical specialist and the principles of professional subordination in surgery

***Must know:***

- Modern concepts of domestic and foreign theoretical and practical surgery
- Determine management tactics (principles of surgical interventions and conservative treatment, rehabilitation measures) for the most common surgical diseases and their complications
- Plan the examination of the patient, interpret the results of laboratory and instrumental studies in the most common surgical diseases and their complications
- Herniotomy syndrome and the complication of abdominal wall hernias.
- Acute cholecystitis
- Acute pancreatitis.
- Diseases complicated by obstructive jaundice (obstructive jaundice syndrome).
- Acute and chronic bleeding into the gastrointestinal tract.
- Acute bowel obstruction syndrome.
- Peritoneal syndrome.
- Methods of operation and indications for surgical intervention.
- Know the surgical accesses for surgical diseases.
- Main steps of typical surgical interventions
- Indications for drainage
- Master the treatment program protocols.
- Main symptoms and syndromes
- Etiological and pathogenetic factors of the most common surgical diseases according to OCH.
- Various clinical variants and complications of the most common surgical diseases of the thoracic

cavity, cardiovascular and endocrine systems;

- Diagnostic and therapeutic algorithm of medical care for emergency conditions in the clinic of surgical diseases;
  - Indications and contraindications for surgical interventions in elective and urgent thoracic, cardiovascular, endocrine surgery, postoperative period management;
  - Know the indications and contraindications for lung and heart transplantation;
- Must be able to:***
- Identify the main clinical symptoms
  - Interpret the symptom information
  - Formulate and justify a clinical diagnosis.
  - Make a differential diagnosis
  - Justify indications and contraindications for surgical treatment.
  - Justify the indications for conservative treatment
  - Justify the list of laboratory and instrumental examinations
  - Rationale for specialist advice
  - Evaluate clinical, laboratory, radiologic, ultrasound, and endoscopic examination of the patient
  - Identify various clinical variants and complications of the most common surgical diseases
  - Demonstrate proficiency in medical record keeping in a surgical clinic
  - Diagnose complicated and atypical forms of the most common surgical diseases
  - Plan an examination scheme for a specific patient depending on the clinical course of the disease
  - Provide medical care for surgical emergencies and perform emergency surgical manipulations and surgeries
  - Perform differential diagnosis of the most common surgical diseases in emergency and elective surgery
  - Determine a plan for conservative and surgical treatment of surgical diseases depending on pathogenetic factors and the severity of the patient's condition
  - Diagnose emergency conditions in a pediatric surgery clinic and provide emergency medical care to a child
  - Determine management tactics for a child with major surgical conditions
  - Identify various clinical manifestations of complications and establish a preliminary diagnosis of surgical diseases and pediatric trauma
  - Diagnose and determine treatment strategies for malformations
  - Make a preliminary diagnosis of surgical malformations
  - Diagnose and identify emergency treatment tactics for surgical malformations
  - Identify the most common clinical symptoms and syndromes in the thoracic, cardiovascular, endocrine surgery clinic
  - Diagnose and provide medical care for emergencies in thoracic, cardiovascular, endocrine surgery clinic
  - Demonstrate mastery of the moral and ethical principles of a medical professional 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.
  - Carry out prognosis of life and performance 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 presentation of the most common diseases of thoracic, cardiovascular, endocrine surgery.
  - Make a plan of examination 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 contraindications for surgical interventions in elective and urgent thoracic, cardiovascular, endocrine surgery.
  - Determine post-operative management tactics, prescribe necessary treatment
  - Demonstrate ability to perform necessary medical manipulations

The developed program corresponds to the educational and professional program (EPP) and is focused on the formation of competencies:

**general (GK) - GK1 to GK10 of RPF:**

- Ability to use knowledge in practical situations;
- Knowledge and understanding of the subject area and an understanding of the profession;
- Ability to exercise self-regulation, lead a healthy lifestyle, ability to adapt and act in a new situation.
- Ability to choose communication strategies; ability to work in a team; interpersonal skills
- Ability to communicate in the mother tongue, both orally and in writing; ability to communicate in a second language
- Skills in the use of information and communication technologies
- Ability to think abstractly, analyze and synthesize, the ability to learn and be a modern learner.
- Ability to use knowledge in practical situations.
- Ability to assess and ensure the quality of work performed.
- Determination and persistence in the tasks and responsibilities undertaken
- Ability to act in a socially responsible and socially conscious manner
- Striving to preserve the environment.

**professional (FC)1 - FC19 RPF:**

- Ability to process government, social, economic and health information.

In accordance with the educational and professional program, the expected program learning outcomes (PBL) include the skills PRN4, PRN12 of the VET:

- To know types and methods of adaptation, principles of acting in a new situation. To be able to apply means of self-regulation, to be able to adapt to new situations (circumstances) of life and activity. Establishment of appropriate connections to achieve the result. Be responsible for the timely use of methods of self-regulation.

- Evaluate diagnosis information in the setting of a health care facility, its unit, applying a standard procedure, using knowledge of the person, its organs and systems, based on the results of laboratory and instrumental tests (according to list 4).

**3. Structure of the training discipline**

Name of modules and topics	Number of hours, of which				
	Total	Auditorium		SSW	
		Lectures	Practical exercises	SSW	SSW (individual)
	660	30	330	300	-
ETS credits	22	1	11	10	
Content Block 1 (4 courses 7 semester)	70	6	36	28	-
Content Block 2 (4 course 8 Semester) Examination	65	4	34	27	
Content Block 3 (5th year 9 semester)	122	12	60	50	-
Content Block 4 (Year 5) 10 semester) Examination	103	8	50	45	-
Content Block 5 (6th year) Semester 11)	180	-	90	90	-
Content Block 6 (6th year) 12 semester) Credit	120	-	60	60	-

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

The curriculum of the educational discipline consists of 6 blocks:

Name of content modules and topics	Number of hours					
	Daytime Form					
	total	L	P	lab	and that 's it	SSW
1	2	3	4	5	6	7
<b>Unit 1, Section 1. General surgery, Chapter 2. Urgent abdominal surgery.</b>						
<b>4th year 7 semester</b>						
<b>Topic 1:</b> General issues of surgery. Examination of surgical patients	5	2	2			1
<b>Topic 2:</b> General principles of surgical patient care.	3		2			1
<b>Topic 3.</b> Symptoms and syndromes in surgery	3		2			1
<b>Topic 4.</b> Surgical pathology of the venous and lymphatic systems	4		2			2
<b>Topic 5.</b> Acute appendicitis. Complication of acute appendicitis	8	2	4			2
<b>Topic 6.</b> Acute cholecystitis. Complication of acute cholecystitis	4		2			2
<b>Topic 7:</b> Acute pancreatitis. Chronic diseases of the pancreas	4		2			2
<b>Topic 8.</b> Peritonitis	6	2	2			2
<b>Topic 9:</b> Diseases of the small and large intestine	4		2			2
<b>Topic 10.</b> Open complications of peptic ulcer disease of the stomach and 12 duodenum.	6		4			2
<b>Topic 11.</b> Perforative ulcer	4		2			2
<b>Topic 12.</b> Diseases of the liver and spleen	4		2			2
<b>Topic 13.</b> Disease of extrahepatic bile ducts.	3		2			1
<b>Topic 14.</b> External and internal hernias of the abdomen. Complication of hernias	4		2			2
<b>Topic 15.</b> External and internal hernias of the abdomen. Complication of hernias	4		2			2
<b>Final control work No. 1</b>	4		2			2
<b>Together:</b>	<b>70</b>	<b>6</b>	<b>36</b>			<b>28</b>

Name of content modules and topics	Number of hours					
	Daytime Form					
	total	L	P	lab	and that 's it	SSW
1	2	3	4	5	6	7
<b>Block 2 Section 1.</b> Surgical gastroenterology <b>Section 2.</b> Surgical diseases of arterial and venous vessels						
<b>4th year 8 semester</b>						
Topic 16. Chronic diseases of the stomach and duodenum. Features of clinical manifestations, diagnosis and treatment of chronic ulcers of the stomach and duodenum. Indications and methods of surgical interventions.	6	2	2			2
Topic 17. Acute cholecystitis and its complications. Anatomical and physiological features of the biliary tract definition, etiology and pathogenesis of acute cholecystitis. Classification. Clinic, diagnosis, differential diagnosis. Surgical strategy.	4		2			2
Topic 18. Acute intestinal obstruction. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis of mechanical intestinal obstruction. The principles of patient preparation for surgery, surgical techniques and management of the postoperative period.	4		2			2
Topic 19. Peritoneal adhesions: causes of pathogenesis, classification. Clinic of different forms of SCA, diagnosis, conservative and surgical treatment, indications, features and types of surgical interventions.	4		2			2
Topic 20. Chronic ischemia of the lower extremities: obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu disease. Causes, pathogenesis, classification of chronic ischemia according to the level of occlusion of aorta and limb arteries. Clinic, diagnosis, differential diagnosis, treatment.	6	2	2			2
Topic 21. Diabetic foot syndrome: causes, pathogenesis, classification. Clinical manifestations, variants of the clinical course, complications. Diagnosis, differential diagnosis. Conservative and surgical treatment of diabetic angiopathy,	4		2			2
Topic 22. Acute limb ischemia syndrome. Causes: arterial thrombosis and embolism, limb trauma, compartment syndrome. Classification of acute limb ischemia syndrome. Clinic, variants of the clinical course, complications. Diagnosis, first aid, treatment tactics	6	2	2			2
Topic 23. Chronic venous insufficiency						



syndrome. Varicose veins of the lower extremities, primary and secondary varicose veins. Causes, pathogenesis, classification, clinic, diagnosis, complications. Methods of surgical treatment.	4		2			2
Topic 24. Thrombosis and thrombophlebitis of the surface and deep main veins of the limbs. Causes, pathogenesis, classification, clinic, diagnosis, complications. Conservative and surgical treatment.	4		2			2
Topic 25. Postrombophlebitic syndrome. Etiopathogenesis, classification. Clinic. Diagnostics, differential diagnostics. Conservative and methods of surgical treatment. Trophic ulcer as a complication of varicose vein disease: causes, pathogenesis, clinic, methods of treatment. Limb lymphedema. Causes, pathogenesis, clinic.	4		2			2
Topic 26. Patient management and case history	6		4			2
Topic 27. Mastering practical skills: ( Bladder catheterization, u/s, u/s, pts, injections, etc.) Performing CPR, etc.)	6		4			2
Topic 28. Protocols for treatment programmes	7		4			3
<b>Final control work</b>	2		2			
<b>Together:</b>	<b>65</b>	4	<b>34</b>			<b>27</b>
<b>Total (block 1 and 2)</b>	<b>135</b>	<b>10</b>	<b>70</b>			<b>55</b>

Name of content modules and topics	Number of hours					
	Daytime Form					
	total	L	P	lab	and that 's it	SSW
1	2	3	4	5	6	7
<b>Block #1 Surgery</b>						
<b>5th year 9 semester</b>						
1. surgical pathology of the respiratory system. Indications and contraindications for lung transplantation. Conditions of storage of donor lung and its transportation	13	2	6			5
Topic 2: Trauma to the thorax. Traumatic injuries of the peripheral nervous system. Classification of traumatic injuries of peripheral nerves. Clinic. Diagnosis. Emergency treatment for patients with traumatic injury of peripheral nerves.	11		6			5
Topic 3. Disease of the esophagus. Diaphragmatic hernia. Disease of the mediastinum, diaphragm. Relaxation of the diaphragm.	13	2	6			5

Topic 4. Coronary heart disease, cardiac rhythm disorder. Emergency surgical care for myocardial infarction. Surgical heart pathology Heart transplantation.	13	2	6			5
Topic 5. Euthyroid and diffuse toxic goiter. Closed craniocerebral injury (CCI). Classification. Clinic, diagnosis and treatment of concussion, brain injury and compression. First aid to patients with CMI at the scene and at the pre-hospital stage.	13	2	6			5
Topic 6: Obliterative arterial disease. Open craniocerebral trauma (CMT). Classification, clinic, diagnosis. Combined and combined CMI, features of the clinic and diagnosis. Principles of emergency care for patients with open, combined and combined traumatic brain injury at different stages of evacuation.	13	2	6			5
Topic 7: Arterial thrombosis and embolism. Thrombosis of the main veins. Post-thrombotic syndrome. Classification of acute limb ischemia. Clinical stages of the course. Diagnosis.	13	2	6			5
Topic 8: Vascular injuries. Spinal cord injury (SCI). Etiopathogenesis of traumatic lesions of the spine and spinal cord. Classification. Clinic of different types of spinal cord and spine injuries depending on the level of damage.	11		6			5
Topic9. Varicose veins in the lower veins of the extremities. Lymphedema. Emergency treatment of patients with spinal cord and spinal cord injuries, the main methods and principles of transport immobilization of patients depending on the level of injury.	11		6			5
Topic 10. Pulmonary embolism. Indications for surgical treatment for spinal cord injury. Modern methods of treatment of spinal cord and spinal cord injuries. Prevention and treatment of complications in the acute and remote periods. Rehabilitation treatment of patients.	11		6			5
<b>Total for Block #1</b>	<b>122</b>	<b>12</b>	<b>60</b>			<b>50</b>

Name of content modules and topics	Number of hours					
	Daytime Form					
	total	L	P	lab	and that	SSW
					's it	
1	2	3	4	5	6	7
<b>Unit 2 Pediatric surgery</b>						
<b>5 year 10 semester</b>						
Topic 11. Malformations accompanied by respiratory insufficiency in children.		2	5			5
Topic 12. Malformations accompanied by intestinal obstruction in children.			5			5
Topic 13. Malformations of the urogenital system in children			5			5
Topic 14. Developmental defects of the musculoskeletal system and benign neoplasms of bones and joints in children.		2	5			5
Topic 15. Malignant neoplasms of bones and joints. Malignant neoplasms of soft tissues.		2	6			5
Topic 16. Polytrauma in children. Gastrointestinal bleeding in children.			6			5
Topic 17. Traumatic shock. Painful shock.		2	6			5
Topic 18. Intrathoracic tension syndrome.			6			5
Topic19. Septic shock.			6			5
<b>Total for block number 2</b>		8	50			45
<b>Together:</b>						
<b>Total for block number 2</b>	103	8	50			45
<b>Together:</b>	<b>225</b>	20	<b>110</b>			<b>95</b>

Name of content modules and topics	Number of hours					
	Daytime Form					
	total	L	P	lab	and that 's it	SSW
1	2	3	4	5	6	7
<b>Block 1. General Surgery, Section 1 General, Section 2 Thoracic Diseases, Section 3 Abdominal Diseases</b>						
<b>6th year 11 semester</b>						
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			6
Theme 2: Modern surgical trauma in disasters, emergencies and combat, the principles of evacuation measures. Stages of medical evacuation. Classification of traumas, pathomorphology of wound process, clinical picture, treatment of gunshot wounds. Primary and secondary surgical treatment of wounds.			6			6
Topic 3 Critical conditions in surgical patients: multiple organ failure syndrome, acute respiratory distress syndrome, acute cardiovascular failure syndrome, ARF, acute liver failure. AIDS in the surgical clinic			6			6
Topic 4. Features of the course of surgical diseases in pregnant and elderly people. Diagnosis and differential diagnosis of acute diseases of the abdominal cavity			6			6
Topic 5. Damage to the thoracic cavity organs. Clinic and diagnosis of pneumothorax, hemothorax and chylothorax, treatment tactics. Diagnostic program for cardiac injury. Triad of symptoms of cardiac injury			6			6
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			6
Topic 7. abdominal injuries. Symptomatology of injuries of the abdominal cavity and retroperitoneal space, methods of diagnosis, treatment tactics. Bleeding from the digestive tract. Causes of occurrence, diagnosis and differential diagnosis, treatment tactics.			6			6
Topic 8: Acute abdominal syndrome. Diagnosis, differential and treatment tactics. Differential diagnosis of acute diseases of the abdominal cavity.			6			6

Topic 9. Local and widespread purulent inflammatory processes of the abdominal cavity and peritoneum. Etiology, pathogenesis, clinic.			6			6
Topic 10. Mechanical jaundice. Causes of occurrence, differential diagnostic tactics. Functional, instrumental methods of research in diseases of the liver, extrahepatic bile ducts, pancreas			6			6
Topic 11. Focal liver lesions: Simple cysts, Echinococcosis (echinococcal cysts) of the liver, Liver abscess (inflammatory liver cysts), Traumatic liver cysts (hematoma, white, seroma). Hemangioma of the liver			6			6
Topic 12. Gallstone disease. Clinic, diagnosis and treatment strategy. Choecystectomy: types of surgical access, surgical technique. Modern surgical technique. Postcholecystectomy syndrome.			6			6
Topic 13. Differential diagnosis and treatment of diseases of the rectum and pararectal space. Acute and chronic hemorrhoids (etiology, pathogenesis, classification, clinic, features of clinical manifestations of different stages of hemorrhoids, methods of research, differential diagnosis, conservative and surgical treatment, types of operations).			6			6
Topic 14. Difficulties of arterial and venous thrombosis and embolism. Limb ischemia syndrome. Causes of occurrence, classification, clinic, differential diagnosis, conservative therapy and methods of surgical treatment			6			6
Topic 15. Differential diagnosis and treatment of thyroid and prithyroid diseases. Differential diagnosis and treatment of adrenal tumors. Diagnostic program. Clinical-diagnostic and therapeutic-surgical program. Rehabilitation of patients.			4			6
Final control work			2			
<b>Block #1:</b>	<b>180</b>		<b>90</b>			<b>90</b>

Name of content modules and topics	Number of hours					
	Daytime Form					
	total	L	P	lab	and that 's it	SSW
1	2	3	4	5	6	7
<b>Block 2</b> Pediatric Surgery, <b>Section 1</b> General, <b>Section 2</b> Thoracic Diseases, <b>Section 3</b> Abdominal Diseases						
6th year 12 semester						
Topic 16. Pediatric surgery as a specialty. Organization and condition of surgical care for children. The surgical department of the polyclinic. Structure of the branch. The equipment of its premises. States. Sanitary and preventive work. Features of the organization 6ambulatory-polyclinic surgery. Children's surgical service of the region, the country.			6			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			6
Topic 18. Emergency conditions of pediatric surgery. Clinical classification of respiratory failure. Emergency principles of respiratory insufficiency. The main clinical manifestations of cardiovascular insufficiency. Differentiation of cardiovascular insufficiency depending on its type and causes.			6			6
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 patients.			6			6
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			6

Topic 21. Surgical diseases of the abdominal cavity, rectum. Etiology, pathogenesis, classification, clinical symptomatology, objective examination, additional methods of examination, diagnosis, treatment, complications, consequences, remote results, dispensary. Surgical diseases of urogenital system			6			6
Topic 22. Intussusception. Etiology, pathogenesis, classification, clinical symptomatology, objective examination, additional methods of examination, diagnosis, treatment, complications, consequences, long-term results, medical follow-up. Obturation intestinal obstruction			6			6
Topic 23. Strangulation intestinal obstruction. Etiology, pathogenesis, classification, clinical symptomatology, objective examination, additional methods of examination, diagnosis, treatment, complications, consequences, long-term results, medical follow-up. Dynamic intestinal obstruction.			6			6
Topic 24. Peritonitis in newborns. Pathogenesis, clinic, differential diagnosis. Ulcerative-necrotic enterocolitis. Forms: Molten NEC, spontaneous intestinal perforation (SPK)			4			6
Topic 25. Anorectal malformations in children. Anatomical classification based on treatment tactics and prognosis. Anorectal malformations in boys and girls			4			6
<b>Final control work 2</b>			2			
Score:			2			
<b>Block #2:</b>	<b>120</b>		<b>60</b>			<b>60</b>
<b>Together:</b>	<b>300</b>		<b>150</b>			<b>150</b>

### 3.1. lecture plan

№	Topic of the session/plan
	Block #1
1	<b>Theme 1:</b> General issues of surgery. <ol style="list-style-type: none"> <li>1. Examination of surgical patients</li> <li>2. Principle of anatomical accessibility. Principle of physiological resolution. Principle of technical capability. The principle of legal authorization. The principle of moral or ethical resolution.</li> <li>3. Diagnosis of surgical diseases as a complex cognitive process.</li> </ol>
2	<b>Topic 2.</b> Acute appendicitis. Complication of acute appendicitis <ol style="list-style-type: none"> <li>1. Etiopathogenesis, classification.</li> <li>2. Clinic. Diagnosis, differential diagnosis.</li> <li>3. Surgical healing.</li> </ol>
3	<b>Topic 3:</b> Diseases of the liver and spleen <ol style="list-style-type: none"> <li>1. etiopathogenesis, classification.</li> <li>2. Clinic. Diagnosis, differential diagnosis.</li> <li>3. surgical treatment.</li> </ol>
4.	<b>Topic 4:</b> Chronic diseases of the stomach and duodenum. <ol style="list-style-type: none"> <li>1. Peculiarities of clinical manifestations.</li> <li>2. Diagnosis and treatment of chronic peptic ulcer of the stomach and duodenum.</li> <li>3. Indications and methods of surgical interventions.</li> </ol>
	<b>Topic 5</b> Chronic ischemia of the lower extremities <ol style="list-style-type: none"> <li>1. Obliterating atherosclerosis</li> <li>2. Obliterative endarteritis, Raynaud's disease, Takayasu's disease.</li> <li>3. Causes, pathogenesis, classification of chronic ischemia according to the level of aortic and limb arteries occlusion.</li> <li>4. Clinic, diagnosis, differential diagnosis, treatment.</li> </ol>
	Block # 2
5	<b>Topic 1.</b> Surgical pathology of the respiratory system. Indications and contraindications for lung transplantation. Conditions of storage of donor lung and its transportation. <ol style="list-style-type: none"> <li>1. Congenital pulmonary hypoplasia.</li> <li>2. Congenital lung cysts. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, treatment.</li> <li>3. bronchiectatic disease. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, treatment.</li> <li>4. Conditions of storage of donor lung and its transportation.</li> </ol>
6	<b>Topic 2:</b> Disease of the esophagus. Diaphragmatic hernia. Disease of the mediastinum, diaphragm. Relaxation of the diaphragm. Diseases and injuries of the esophagus: <ol style="list-style-type: none"> <li>1. Benign tumors and cysts.</li> <li>2. Burns. Injuries. Achalasia of the cardia,</li> <li>3. Esophageal hernia, gastroesophageal reflux, diverticula.</li> <li>4. Other diseases: Foreign bodies, BARRETT esophagus. Disease of the mediastinum. Classification. Diagnosis. Differential diagnosis. Methods of surgical treatment.</li> </ol>
7.	<b>Topic 3.</b> Euthyroid and diffuse toxic goiter. Euthyroid and toxic goiter. <ol style="list-style-type: none"> <li>1. Classification. Special research methods.</li> <li>2. Diagnosis. Differential diagnosis.</li> <li>3. Preoperative preparation. Surgical treatment.</li> <li>4. Closed craniocerebral injury (CCI). Classification.</li> <li>5. Clinic, diagnosis and treatment of concussion, brain slaughter and compression. First aid to patients with CMI at the scene and at the pre-hospital stage. Modern methods of diagnosis, evaluation of their informativeness.</li> </ol>



8.	<p><b>Topic 4:</b> Obliterative arterial diseases. Chronic ischemia of the lower extremities. Obliterating atherosclerosis and endarteritis. Classification of chronic ischemia and levels of occlusion of the aorta and arteries of the lower extremities.</p> <p>2. Clinical variants of course. Diagnostics. Differential diagnostics. Complications. Methods of conservative treatment. Prophylaxis. Rehabilitation.</p> <p>4. open traumatic brain injury (CBI). Classification, clinic, diagnosis.</p> <p>5. Combined and combined traumatic brain injury, features of the clinic and diagnosis. Principles of emergency care for patients with open, combined and combined traumatic brain injury at different stages of evacuation. The use of modern research methods in the diagnosis of CMT.</p>
9.	<p><b>Topic 5:</b> Coronary heart disease.</p> <p>1. complications: myocardial infarction, cardiac aneurysm, conduction disorders.</p> <p>2. Indications for surgical treatment.</p> <p>3. emergency surgical care for myocardial infarction. Methods of surgical interventions.</p> <p>4. Acquired heart defects. Classification. Diagnosis.</p> <p>5. Indications for surgical treatment. Methods of surgical interventions</p>
10.	<p><b>Topic 6.</b> Arterial thrombosis and embolism. Arterial thrombosis and embolism.</p> <p>(1) Trunk vein thrombosis. Postthrombotic syndrome. Classification of acute limb ischemia.</p> <p>2. Clinical stages of the course. Diagnostics. Differential diagnosis.</p> <p>3. surgical treatment methods.</p> <p>4. trunk vein thrombosis. Classification. Clinic. Diagnostics. Differential diagnostics.</p> <p>5. Methods of conservative and surgical treatment. Post-thrombotic phlebitis syndrome.</p>
	Block #3
11.	<p><b>Topic 1:</b> Childhood malformations with respiratory insufficiency.</p> <p>1. Congenital pulmonary hypoplasia. Congenital lung cysts.</p> <p>2. etiology, pathogenesis, classification, clinical symptomatology, diagnosis, treatment.</p> <p>3. bronchiectatic disease. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, treatment.</p>
12.	<p><b>Topic 2:</b> Malformations of the musculoskeletal system and benign neoplasms of bones and joints in children.</p> <p>1. Hip dysplasia.</p> <p>2. etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p> <p>3. Congenital torticollis. Congenital clubfoot. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p> <p>4. Polydactyly, syndactyly, arachnodactyly</p>
13.	<p><b>Topic 3:</b> Malignant neoplasms</p> <p>1. Nephroblastoma. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p> <p>2. Neuroblastoma. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p> <p>3. Pigmented tumors. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p>
14.	<p><b>Topic 4:</b> Traumatic shock. Painful shock.</p> <p>1. etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p> <p>2. first-aid treatment at the hospital stage.</p> <p>3. pain shock. Etiology, pathogenesis, classification, clinical symptomatology, diagnosis, differential diagnosis, treatment.</p> <p>4. first-aid treatment at the hospital stage.</p>

### 3.2. Plan of practical (seminar, laboratory, semi-group) classes

№	Topic of the session/plan
(4th year 7 semester)	
1.	Theme 1: General issues of surgery. Examination of surgical patients
2.	Topic 2: General principles of surgical patient care.
3.	Topic 3: Symptoms and syndromes of surgery.
4.	Topic 4 Surgical pathology of the venous and lymphatic systems
5.	Topic 5. Acute appendicitis. Complication of acute appendicitis
6.	Topic 6. Acute cholecystitis. Complications of acute cholecystitis
7.	Topic 7: Acute pancreatitis. Chronic diseases of the pancreas
8.	Topic 8 Peritonitis
9.	Topic 9: Diseases of the small and large intestine.
10.	Topic 10. Acute complications of peptic ulcer disease of the stomach and 12 duodenum
11.	Topic 11. Perforative ulcer
12.	Topic 12. Diseases of the liver and spleen
13.	Topic 13. Diseases of extrahepatic bile ducts
14.	Topic 14. External and internal hernias of the abdomen. Complication of hernias
15.	Topic 15. External and internal hernias of the abdomen. Complication of hernias
(4th year 8 semester)	
1.	Topic 16. Chronic diseases of the stomach and duodenum. Features of clinical manifestations, diagnosis and treatment of chronic ulcers of the stomach and duodenum. Indications and methods of surgical interventions.
2.	Topic 17. Acute cholecystitis and its complications. Anatomical and physiological features of the biliary tract definition, etiology and pathogenesis of acute cholecystitis. Classification. Clinic, diagnosis, differential diagnosis. Surgical strategy.
3.	Topic 18. Acute intestinal obstruction. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis of mechanical intestinal obstruction. The principles of patient preparation for surgery, surgical techniques and management of the postoperative period.
4.	Topic 19. Peritoneal adhesions: causes of pathogenesis, classification. Clinic of different forms of SCA, diagnosis, conservative and surgical treatment, indications, features and types of surgical interventions.
5.	Topic 20. Chronic ischemia of the lower extremities: obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu disease. Causes, pathogenesis, classification of chronic ischemia according to the level of occlusion of aorta and limb arteries. Clinic, diagnosis, differential diagnosis, treatment.
6.	Topic 21. Diabetic foot syndrome: causes, pathogenesis, classification. Clinical manifestations, variants of the clinical course, complications. Diagnosis, differential diagnosis. Conservative and surgical treatment of diabetic angiopathy,
7.	Topic 22. Acute limb ischemia syndrome. Causes: arterial thrombosis and embolism, limb trauma, compartment syndrome. Classification of acute limb ischemia syndrome. Clinic, variants of the clinical course, complications. Diagnosis, first aid, treatment tactics
8.	Topic 23. Chronic venous insufficiency syndrome. Varicose veins of the lower extremities, primary and secondary varicose veins. Causes, pathogenesis, classification, clinic, diagnosis, complications. Methods of surgical treatment.

9.	Topic 24. Thrombosis and thrombophlebitis of the surface and deep main veins of the limbs. Causes, pathogenesis, classification, clinic, diagnosis, complications. Conservative and surgical treatment.
10.	Topic 25. Postrombophlebitic syndrome. Etiopathogenesis, classification. Clinic. Diagnostics, differential diagnostics. Conservative and methods of surgical treatment. Trophic ulcer as a complication of varicose vein disease: causes, pathogenesis, clinic, methods of treatment. Limb lymphedema. Causes, pathogenesis, clinic.
11.	Topic 26. Patient management and case history
12.	Topic 27. Mastering practical skills: ( Bladder catheterization, u/s, u/s, pts, injections, etc.) Performing CPR, etc.)
13.	Topic 28. Protocols for treatment programmes
(5th year 9 semester)	
1.	1. surgical pathology of the respiratory system.
2.	Topic 2: Thoracic trauma. Traumatic injuries to the peripheral nervous system
3.	Topic 3. Disease of the esophagus. Diaphragmatic hernia. Disease of the mediastinum, diaphragm.
4.	Topic 4. Coronary heart disease, heart rhythm disorders.
5.	Topic 5. Euthyroid and diffuse toxic goiter. Closed craniocerebral injury (CCI).
6.	Topic 6: Obliterative arterial disease. Open craniocerebral trauma (CTS).
7.	Topic 7: Arterial thrombosis and embolism. Thrombosis of the main veins.
8.	Topic 8: Vascular injuries. Spinal cord injury (SCI).
9.	Topic 9. varicose veins of the lower extremities. Lymphedema. Emergency care for patients with traumatic lesions of the spine and spinal cord
10.	Topic 10. Pulmonary embolism. Indications for surgical treatment in spinal cord injury.
5th year (10th semester)	
1.	Topic 11. Malformations accompanied by respiratory insufficiency in children.
2.	Topic 12. Malformations accompanied by intestinal obstruction in children.
3.	Topic 13. Malformations of the urogenital system in children
4.	Topic 14. Developmental defects of the musculoskeletal system and benign neoplasms of bones and joints in children.
5.	Topic 15. Malignant neoplasms of bones and joints. Malignant neoplasms of soft tissues.
6.	Topic 16. Polytrauma in children. Gastrointestinal bleeding in children
7.	Topic 17. Traumatic shock. Painful shock.
8.	Topic 18. Intrathoracic tension syndrome.
9.	Topic 19. Septic shock.
6th year (11th semester)	
1.	Topic 1. History of surgery in Ukraine. Organization of surgical care in Ukraine
2.	Theme 2 Modern surgical trauma in disasters, emergencies and combat situations, principles of evacuation measures
3.	Topic 3 Critical conditions in surgical patients: multiple organ failure syndrome, acute respiratory distress syndrome, acute cardiovascular failure syndrome
4.	Topic 4: Peculiarities of the course of surgical diseases in pregnant and elderly people

5.	Topic 5. Damage to the thoracic cavity organs. Clinic and diagnosis of pneumothorax, hemothorax and chylothorax, treatment tactics
6.	Topic 6. Surgical pathology of lungs and pleura. Clinic and diagnosis
7.	Topic 7: Abdominal injuries. Symptomatology of abdominal injuries
8.	Topic 8: Acute abdominal syndrome. Diagnosis, differential and treatment tactics.
9.	Topic 9. Local and widespread purulent inflammatory processes of the abdominal cavity and peritoneum.
10.	Topic 10. Mechanical jaundice. Causes of occurrence, differential and diagnostic tactics
11.	Topic 11. Focal liver lesions: Simple cysts, Echinococcosis
12.	Topic 12. Biliary stone disease. Clinic, diagnosis and treatment tactics
13.	Topic 13. Differential diagnosis and treatment of diseases of the rectum and pararectal space.
14.	Topic 14. Problems of arterial and venous thrombosis and embolism. Ischemic limb syndrome.
15.	Topic 15. Differential diagnosis and treatment of thyroid and prithyroid diseases
<b>6th year (12th semester)</b>	
1.	Topic 16. Pediatric surgery as a specialty. Organization and condition of surgical care for children. Surgical department of the polyclinic. Structure of the department
2.	Topic 17. Child traumatism. Its structure. Features of childhood traumatism
3.	Topic 18. Emergency conditions of pediatric surgery. Clinical classification of respiratory failure
4.	Topic 19. Bronchiectatic disease. Classification of bronchiectasis in children
5.	Topic 20. Pneumothorax. Piopneumothorax. Diagnostics. Principles of treatment
6.	Topic 21. Surgical diseases of the abdominal cavity and rectum.
7.	Topic 22. Intussusception. Etiology, pathogenesis, classification, clinical symptomatology
8.	Topic 23. Strangulation intestinal obstruction. Etiology, pathogenesis, classification, clinical symptoms
9.	Topic 24. Peritonitis in newborns. Pathogenesis, clinic, differential diagnosis. Ulcerative-necrotic enterocolitis.
10.	Topic 25. Anorectal malformations in children. Anatomical classification based on treatment tactics and prognosis.

Topics for SSW Course 4. (semester 7-8)	
1.	Preparation for practical classes (theoretical training, practical skills development)
2.	Completion of online courses and online testing
3.	Independent study of the topics that are not included in the plan of classroom lessons Block 1 (the list is attached to the original PSD)
4.	Individual work
5.	Preparing for the final examination
6.	Preparation for practical classes (theoretical training, practical skills development)
7.	Completion of online courses and online testing
8.	Independent study of the topics that are not included in the plan of classroom lessons Block 2 (the list is attached to the original PSD)
9.	Individual work
10.	Preparing for the final examination
Topics for SRS Course 5. (semester 9-10)	
1.	Preparation for practical classes (theoretical training, practical skills development)
2.	Completion of online courses and online testing
3.	Independent study of the topics that are not included in the plan of classroom lessons Block 1 (the list is attached to the original PSD)
4.	Individual work
5.	Preparing for the final control paper No. 1
6.	Preparation for practical classes (theoretical training, practical skills development)
7.	Completion of online courses and online testing
8.	Independent study of the topics that are not included in the plan of classroom lessons Block 2 (the list is attached to the original PSD)
9.	Individual work
10.	Preparation for Final Examination No. 2
Topics for SSW Course 6. (semester 11-12)	
1.	<b>Preparation for the practical exercises.</b> Theoretical training and practical skills development.
2.	<b>Independent study of the topics that are not included in the plan of classroom lessons:</b>
	1. Differential diagnosis in gastrointestinal bleeding;
	2. Functional, instrumental methods examination in diseases of the stomach, small and large intestine;
	3. Modern methods of diagnosis and treatment of diseases of the cardiovascular and respiratory systems;
	4. Transplantology. General provisions. kidney, heart, liver, pancreas transplantation;
	5. Surgical complications in patients with infectious pathology. differential diagnosis between acute surgical and infectious diseases;
	6. differential diagnosis and treatment of mediastinal diseases;
	7. syndrome of chest pain, respiratory and heart failure in the diagnosis and differential diagnosis of diseases of the chest cavity;
	8. Anticoagulant and thrombolytic therapy in acute thrombosis. Prophylactic anticoagulant therapy;
	9. Differential diagnosis, prevention and treatment of acute ulcer of the digestive tract;
	10. 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.
3.	<b>Individual independent work of students:</b>
	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.

## **a. Ensuring the educational process**

Lectures are provided with technical support:

- computer
- projection screen
- multimedia projector
- presentation programmes (lectures)
- Practical exercises:
  - Mannequin - simulator "Maxim - 3"
  - Sack - AMBU
  - Dressing material, fixing splints, tourniquets.
  - I.V. injection simulators, bladder catheterization, BP meter
  - Breast exam simulator
  - Surgical knotting and soft tissue suturing training device
  - Laryngoscope
  - Duct kit
  - Airway simulator for airway entry

## **3. Final control**

List of theoretical issues, practical skills and professional skills to be mastered by the student.

Theoretical issues:

1. Anatomic-functional information about the cecum and appendicular process.
2. Methods of examination of patients with acute appendicitis.
3. Clinic of acute appendicitis.
4. Etiology and pathogenesis of acute appendicitis.
5. Differential diagnosis of acute appendicitis.
6. Features of the clinical course of acute appendicitis in children.
7. Features of the clinical course of acute appendicitis in pregnant women.
8. Peculiarities of the clinical course of acute appendicitis in patients of senile and elderly age.
9. A complication of acute appendicitis.

10. Apendicular infiltrate (clinic, diagnosis, treatment tactics).
11. Apendicular abscess of the right iliac area (clinic, diagnosis, treatment tactics).
12. pelvic abscess. Clinic, diagnosis, treatment strategy.
13. Under diaphragmatic abscess. Clinic, diagnosis, treatment strategy.
14. Pilophlebitis. Clinic, diagnosis, treatment strategy.
15. Disseminated appendicular peritonitis. Clinic, diagnosis, therapeutic tactics.
16. Technique of typical appendectomy.
17. Laparoscopic appendectomy.
18. Peculiarities of the operative technique depending on the form of acute appendicitis and location of the appendix.
19. Type of access and volume of surgical intervention for various complications of acute appendicitis.
20. Complications of appendectomy.
21. Complication of appendectomy in the early and late postoperative period.
22. Management of the postoperative period in patients with appendicitis and its complications.
23. anatomical and functional information about the gallbladder and extrahepatic bile ducts.
24. etiology and pathogenesis of acute cholecystitis.
25. Classification of acute cholecystitis.
26. Methods of examination of patients with acute cholecystitis.
27. Typical clinical picture of acute cholecystitis, its peculiarities among young and old people.
28. Differential diagnosis of acute cholecystitis.
29. Diagnostic program in acute cholecystitis.
30. A treatment program for acute cholecystitis.
31. Complication of acute cholecystitis.
32. Peculiarities of clinical picture of acute cholecystitis in the presence of accompanying pathology.
33. Clinical picture of complications of acute cholecystitis and differential diagnosis.
34. Indications for emergency surgery in acute cholecystitis.
35. Indications for emergency surgery (24-48 hours) in acute cholecystitis.
36. Nature of surgical interventions in acute cholecystitis.
37. Nature of surgical interventions for complications of acute cholecystitis.
38. Indications for minimally invasive surgical interventions (endoscopic, laparoscopic, under CT control and ultrasound).
39. Intraoperative complications of cholecystectomy and their treatment.



40. Postoperative complications and their prevention and treatment.
41. Preoperative preparation of patients with acute cholecystitis.
42. Postoperative management of patients with acute cholecystitis.
43. Anatomico-functional information about the pancreas.
44. Etiology and pathogenesis of acute pancreatitis.
45. Classification of acute pancreatitis.
46. Methods of examination of patients with acute pancreatitis.
47. Typical clinical picture of acute pancreatitis.
48. Differential diagnosis of acute pancreatitis.
49. Diagnostic program in acute pancreatitis.
50. Treatment tactics in acute pancreatitis.
51. Complication of acute pancreatitis.
52. Peculiarities of clinical picture of acute pancreatitis in the presence of accompanying pathology.
53. Clinical picture of complications of acute pancreatitis and differential diagnosis.
53. Indications for surgical interventions in acute pancreatitis.
55. Nature of surgical interventions in acute pancreatitis.
56. Nature of surgical interventions for complications of acute pancreatitis.
57. Indications for minimally invasive surgical interventions (endoscopic, laparoscopic, ultrasound-guided) in acute pancreatitis.
58. Treatment of patients with acute pancreatitis in the postoperative period.
59. Anatomico-functional information about the stomach and duodenum.
60. Modern definition and methods of diagnostics of peptic ulcer duodenal ulcer.
61. What are the aggressive factors in the development of peptic ulcer disease?
62. What are the protective factors of the gastric mucosa? 63. What are the anatomical zones of the stomach?
64. Which arteries supply blood to the stomach?
65. What effect does the vagus nerve have on the stomach?
66. What effect does sympathetic innervation have on the stomach?
67. What are the complications of peptic ulcer disease of the stomach and duodenum?
68. What are the peculiarities of pain syndrome in gastric ulcer localization?
69. What are the features of pain syndrome in duodenal ulcer localization?
70. What objective clinical signs are found in gastric ulcer duodenal ulcer?
71. What is the essence of the diagnostic program in peptic ulcer disease of the stomach and duodenum?

72. With what diseases should the differential diagnosis of gastric and duodenal ulcer be made?
73. Methods of examination of patients with perforative ulcer.
74. Classification of perforating ulcer.
75. Etiology and pathogenesis of perforative ulcer.
76. Clinic of a typical perforative ulcer.
77. Differential diagnosis of perforative ulcer.
78. Peculiarities of the clinical course of atypical perforative ulcer.
79. Peculiarities of the clinical course of the covered perforative ulcer.
80. Peculiarities of clinical course of perforative ulcer at perforation into omental pouch.
81. Peculiarities of the course of perforative ulcer at its rupture into the retroperitoneal space.
82. Choice of operative intervention size for perforative ulcer.
83. Technique of stitching a perforated ulcer.
84. Technique of pyloroduodenoplasty.
85. Choice of the method of vagotomy and pyloroduodenoplasty.
86. Indications and techniques for selective vagotomy and antrumectomy.
87. Indications for and technique of selective proximal vagotomy and pyloroduodenoplasty.
88. Indications for and technique of gastric resection in perforative ulcer.
89. Laparoscopic techniques in the surgical treatment of perforative ulcer.
90. Complication in the early postoperative period when performing surgical interventions for perforated ulcer.
91. Complication in the late postoperative period when performing surgical interventions for perforated ulcer.
92. Treatment of complications in the late postoperative period when performing surgical interventions for perforated ulcer.
93. Peculiarities of the management of patients with perforative ulcer in the early and late postoperative period.
94. Complication in the late postoperative period when performing surgical interventions for perforated ulcer.
95. What complaints are observed in patients with an obstruction at the level of the original gastric region?
96. What complaints are observed in patients with an obstruction at the distal duodenal level?

97. Give the definition of pyloroduodenal stenosis.
98. What are the causes of pyloroduodenal stenosis?
99. What is the classification of pyloroduodenal stenosis?
100. What complaints are observed in subcompensated stenosis?
101. What complaints are observed in compensated stenosis?
102. What complaints are observed in decompensated stenosis?
103. What are the objective clinical signs of subcompensated and decompensated pyloroduodenal stenosis?
104. Radiological signs of the degree of pyloroduodenal stenosis.
105. What are the principles of treatment of pyloroduodenal stenosis?
106. What are the indications for surgical treatment of gastric and duodenal ulcer?
107. What surgical techniques should be considered for localized duodenal ulcers?
108. What surgical techniques should be considered for localized gastric ulcers?
109. Identification of a peptic ulcer of the anastomosis.
110. What are the causes of peptic anastomosis ulcer?
111. What are the complaints of patients with peptic anastomosis ulcer?
112. What are the objective clinical signs of a peptic anastomosis ulcer?
113. What is the essence of the diagnostic program for peptic anastomosis ulcer?
114. With which diseases should peptic anastomosis ulcer be diagnosed?
115. What drug treatment is used for peptic anastomosis ulcer?
116. What is the extent of surgical intervention for a peptic anastomosis ulcer?
117. Define Mallory-Weiss syndrome.
118. What are the complaints of patients with Mallory-Weiss syndrome?
119. What are the objective manifestations of Mallory-Weiss syndrome?
120. What testing methods are used to clarify the diagnosis of Mallory-Weiss syndrome?
121. With which diseases should the differential diagnosis of Mallory-Weiss syndrome be made?
122. Therapeutic tactics for Mallory-Weiss syndrome.
123. What are the indications for surgical treatment of Mallory-Weiss syndrome?
124. Etiology and pathogenesis of gastrointestinal bleeding.
125. Methods of examination of patients with gastrointestinal bleeding.
126. Classification of ulcerative bleeding.
127. Clinic of gastrointestinal bleeding.

128. Differential diagnosis of ulcerative bleeding.
129. Peculiarities of the course of ulcerative gastroduodenal bleeding depending on the degree of its activity.
130. Features of the clinical course of active bleeding.
131. Peculiarities of the clinical course of discontinued ulcerous bleeding.
132. Suturing technique for a blood ulcer.
133. Selection of a method to stop bleeding depending on the degree of bleeding activity.
134. Indications for conservative treatment of ulcerative bleeding.
135. Gastrointestinal bleeding therapy.
136. Methods of endoscopic hemostasis and indications for their use.
137. Methods of operative interventions for ulcerative bleeding.
138. The choice of surgical intervention method depending on the patient's condition, the intensity of bleeding, the degree of blood loss, ulcer localization.
139. Peculiarities of surgical techniques in case of ulcerative bleeding.
140. Complication in the early postoperative period when performing surgical interventions for ulcerative bleeding.
141. Treatment of complications in the early postoperative period  
    Performing surgical interventions for ulcerative bleeding
142. Peculiarities of the management of patients with ulcerative bleeding in the early and late postoperative period.
143. Anatomico-physiological information about the small intestine and large intestine.
144. Definition of bowel obstruction.
145. The etiology of intestinal obstruction.
146. Current issues of pathogenesis of intestinal obstruction.
147. Classification of intestinal obstruction.
148. Causes of dynamic bowel obstruction.
149. Clinic of dynamic bowel obstruction.
150. Treatment of dynamic (functional) intestinal obstruction.
151. Types of mechanical bowel obstruction.
152. Clinic of obstructive bowel obstruction.
153. Peculiarities of the clinic of strangulated intestinal obstruction.
154. Peculiarities of the clinical picture of the spigot of separate organs of the digestive tract.
155. Peculiarities of intussusception clinic.
156. Types of intussusception.
157. Peculiarities of treatment tactics depending on the time of the disease onset.
158. Zluk disease.

159. The etiology of inflammatory disease.
160. Current aspects of disease pathogenesis.
161. Typical clinical picture of inflammatory disease.
162. Differential diagnosis of intestinal obstruction.
163. Differential diagnosis of individual types of intestinal obstruction.
164. Modern methods of diagnosis of acute intestinal obstruction.
165. Radiological signs of acute bowel obstruction.
166. Ultrasonographic signs of acute bowel obstruction.
167. A state-of-the-art treatment program for bowel obstruction.
168. Preoperative preparation of patients with acute intestinal obstruction.
169. Choice of the nature of surgical intervention for different types and levels of bowel obstruction.
170. Post-operative treatment program.
171. Prevention and prognosis in patients with acute bowel obstruction.
172. Anatomic-functional information about the parietal and visceral peritoneum.
173. Etiology and pathogenesis of acute peritonitis.
174. Classification of acute peritonitis.
175. Methods of examination of patients with acute peritonitis.
176. Clinical picture of local acute peritonitis.
177. Clinical picture of disseminated peritonitis.
178. Differential diagnosis of acute peritonitis.
179. Diagnostic program in a patient with acute peritonitis.
180. Therapeutic tactics in a patient with acute local peritonitis.
181. Therapeutic tactics in a patient with acute disseminated peritonitis.
182. Complication of acute peritonitis.
183. Peculiarities of the clinical picture of acute peritonitis with concomitant pathology.
184. Therapeutic tactics in acute peritonitis.
185. Peculiarities of preoperative preparation in acute peritonitis.
186. Methods of operative interventions at peritonitis depending on the spread of the inflammatory process in the abdominal cavity.
187. Indications for minimally invasive treatment of patients with acute peritonitis.
188. Stages of surgical intervention in acute disseminated peritonitis.
189. Postoperative complications of acute peritonitis their diagnosis and treatment.
190. Management of patients in the postoperative period.

191. Abdominal compartment syndrome. Definitions, causes of occurrence. Diagnosis and treatment strategy.
192. Relaparotomy and laparostomy in the treatment of disseminated peritonitis.
193. Definition of hernia.
194. Causes of herniation.
195. General symptomatology of hernias.
196. Significance of the shape and size of the hernia for the course of the disease.
197. Classification of external abdominal wall hernias.
198. Complication of hernias. Definition, diagnosis and treatment.
199. Hernia of white line of abdomen. Clinic, classification, diagnosis, differential diagnosis, treatment.
200. Umbilical hernia. Clinic, classification, diagnosis, differential diagnostics, treatment.
201. Oblique inguinal hernia. Clinic, classification, diagnosis, differential diagnosis, treatment.
202. Direct inguinal hernia. Clinic, classification, diagnosis, differential diagnosis, treatment.
203. Postoperative hernias. Clinic, classification, diagnosis, differential diagnosis, treatment.
204. Femoral hernia. Clinic, classification, diagnosis, differential diagnosis, treatment.
205. Strangulated hernias. Typical clinic. Clinical types of impinged hernias. Diagnosis, differential diagnosis.
206. Surgical tactics for impinged hernia.
207. Peculiarities of surgical intervention for impinged hernia.
208. Signs of intestinal viability and non-viability.
209. Inflammation of a hernia. Clinic. Differential diagnostics. Surgical strategy.
210. Hernia injury (trauma). Clinic. Surgical strategy.
211. Intestinal hernia obstruction. A surgical strategy.
212. Irreparable hernia. Clinic, diagnosis, differential diagnosis. Treatment.
213. Modern principles and methods of surgical treatment of hernias.
214. Internal hernias. Clinic. Classification. Diagnostics.
215. Hernia of the esophageal orifice of the diaphragm. Clinic. Diagnostics. diagnostics.
216. What are the causes of development of a hernia of the esophageal diaphragm?
217. What is the mechanism of development of esophageal hernia of the diaphragm?

218. What are the types of esophageal hernia of the diaphragm?
219. What are the complaints of patients with esophageal hernia of the diaphragm?
220. What are the objective manifestations of esophageal hernia of the diaphragm?
221. What complications can occur with esophageal hernia of the diaphragm?
222. Diagnostic program for esophageal hernia of the diaphragm.
223. With what diseases should the differential diagnosis be made in case of esophageal hernia of the diaphragm?
224. What is the conservative treatment of esophageal hernia of the diaphragm?
225. What are the indications for surgical treatment of esophageal hernia of the diaphragm?
226. Essence of surgical interventions for esophageal hernia of the diaphragm.
227. Temporary disability and rehabilitation of patients with esophageal hernia of the diaphragm.
228. Prevention and prognosis in patients with esophageal hernia of the diaphragm.
229. Non-specific ulcerative colitis. Clinic, classification, diagnosis, differential diagnosis, treatment.
230. Crohn's disease. Clinic, classification, diagnosis, differential diagnosis, treatment.
231. Etiology, pathogenesis, classification of colonic diverticular disease.
232. Clinic, methods of investigation, differential diagnosis of diverticular disease of the colon.
233. Complication of diverticular disease of the colon. Conservative and surgical treatment.
234. Classification, diagnosis and treatment of polyps and polyposis of the colon.
235. Intestinal transplantation. Classification of diseases requiring intestinal transplantation. Technique of intestinal transplantation.
236. Mechanical jaundice. Causes of jaundice. Differential diagnostics. Therapeutic tactics.
237. Liver cysts. Classification. Diagnostics, treatment.
238. Cirrhosis and fibrosis of the liver. Portal hypertension syndrome. Classification. Complications. Diagnosis and treatment.
239. Liver transplantation. Indications and contraindications for liver transplantation. The methods of donor selection Methods of liver transplantation. Conditions of donor liver storage and transportation.
240. Etiology, pathogenesis and classification of chronic pancreatitis.
241. Clinical course and diagnostic methods of chronic pancreatitis.
242. Differential diagnosis of chronic pancreatitis.

243. Conservative and surgical treatment of chronic pancreatitis.
244. Complication of chronic pancreatitis. Clinic. Diagnostics. Differential diagnostics. The treatment.
245. Cysts and fistulas of the pancreas. Classification. Clinic. Diagnostics.
246. Complications of pancreatic cysts (suppuration, perforation, bleeding, malignization). Principles of surgical strategy.
247. Indications for pancreas transplantation and their justification. Technique of pancreas transplantation.
248. Diseases of the spleen. Diagnosis and treatment strategy.
249. Surgical tactics in complicated forms of infectious and parasitic diseases of the small intestine.
250. Acute and chronic hemorrhoids (etiology, pathogenesis, classification, clinic, methods of investigation, differential diagnosis, conservative and surgical treatment, types of operations).
251. Acute and chronic paraproctitis (etiology, pathogenesis, classification, clinic, methods of investigation, differential diagnosis, treatment).
252. Anal fissure. Etiology, pathogenesis, classification. Diagnosis and treatment.
253. Epithelial coccygeal passage. Diagnosis and treatment.
254. Perineal soft tissue diseases (prolapse syndrome, pyoderma, perianal dermatitis, condylomatosis). Diagnosis and treatment.
255. Teratomas of pararectal localization. Classification. Diagnosis and treatment.

### **"0" version of the examination ticket**

**Peter Mogyla Black Sea National University**  
 Educational qualification level - Master's  
 degree Area of expertise: 22 Health care  
 specialty 222

The academic discipline is "Surgery".

1. Differential diagnosis of chronic pancreatitis. (maximal number of points is 20.)
2. Clinic, diagnosis (characteristic symptoms) of acute appendicitis (maximum number of points - 20)
3. Acute and chronic paraproctitis (etiology, pathogenesis, classification, clinic, methods of investigation, differential diagnosis, treatment). (maximal number of points is 20.)
4. Anatomical and functional information about the gallbladder and extrahepatic bile ducts. (maximal number of points is 20.)

Head of the Department Zak

M. YU.



## 5. Assessment criteria and ways of diagnosing learning outcomes

### Methods of control

- Questioning (testing of theoretical knowledge and practical skills).
- Test control.
- Writing a scientific literature review (abstracts).
- Preparation of presentations.

**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 purpose of the curriculum. Assessment of the level of students' training is carried out by: questioning students, solving and analysis of situational tasks and test tasks, control of mastering of practical skills.

**Intermediate control.** Checking the students' ability to use theoretical knowledge and practical skills for practical application in all the studied topics, as well as the results of students' independent work. Carried out at the last class on the topic by passing practical skills, testing.

**Final control.** Students who have attended all the lectures and classroom studies provided for by the curriculum, completed the full amount of independent work and accumulated at least a minimum of 70 points in the semester are allowed to the final control (diff.test).

### Distribution of points received by students

A student may receive a maximum of 120 points for ongoing learning activities. Accordingly, a positive grade for each seminar class may be between 5.4 and 9.2. A grade lower than 5.4 means "unsatisfactory", the class is not counted and must be worked out according to the established procedure.

To assess the learning outcomes, a final control is carried out in the form of a final examination. A student may receive a maximum of 80 points for the dissertation. A student shall be deemed to have passed the exam if he/she has received at least 50 points.

### Assessment of student performance

№	Block No.	Number of pairs/study hours	Maximum sum of points for the block	Maximum sum of points for the class
1.	Block #1.	20/40	120	<b>6.0</b>
2.	Block #2.	22/44	120	<b>5.4</b>
3.	Block #3.	20/40	120	<b>6.0</b>
4.	Block #4.	20/40	120	<b>6.0</b>
5.	Block #5.	21/42	120	<b>5.7</b>
6.	Block #6.	20/40,5	120	<b>6.0</b>
7.	Exam (credit)		80	

### Knowledge assessment criteria

**With a score of 10.5 - 12 in the practical session and 71 - 80 in the final examination (A on ECTS scale and 5 on national scale), a student's answer is evaluated if he/she demonstrates a thorough knowledge of emergency and urgent medical care, the ability to apply theoretical material for practical analysis and if there are no inaccuracies.**

**A grade of 8.4 - 10.4 in a practical session and 61 - 70 in a pass-fail assessment (B and C on ECTS scale and 4 on national scale) is awarded** if a response shows knowledge, ability to apply it in practice, but some principal inaccuracies are allowed.

**A grade of 6.4 - 8.3 in the practical session and 50 - 60 in the final examination (D and E on ECTS scale and 3 on national scale) evaluates the student's answer on the condition that he/she knows the theoretical statements and can use them in practice.**

## **6. Recommended sources of information**

### **6.1. Basic:**

1. General surgery /textbook/ Authors: Khimich S.D., Zheliba M.D., Shidlovsky V.A. et al. All-Ukrainian specialized publishing house "Medicine" Year: 2018
2. SD Khimich, MD Zheliba. General Surgery. Medicine, 2019. - – 534 c.
3. Khimich S.D., Zheliba M.D. General surgery. Medicine, 2018. - – 534 c.
4. Emergency Surgery Textbook for students of VI courses of medical faculties of medical universities Edited by NAMNU corresponding member, Doctor of Medicine, Prof. V.V. Drak. Drak, Corresponding Member of the National Academy of Medical Sciences, Doctor of Medicine, Professor V.M. Lesnyy Kharkov 2019
5. Symptoms and syndromes in surgery: Textbook. for medical. Universities IV g.a. Recommended by the Ministry of Health / Edited by I.D. Gerich, S.D. Khimich. - – K., 2016.
6. Polevoy V. P. Care of patients with surgical profile / V.P. Polevoy, O.I. Khomko, S.P. Polevaya, A.S. Palianytsia. - Chernivtsi: Medical University. 2012. - – 380 c.
7. Polevoy V. P. Ambulatory surgical manipulations / V.P. Polevoy, I.V. Shkvarkovsky, M.D. Zheliba. - Chernivtsi: Meduniversity, 2013. - – 252 c.
8. Я. S. Bereznitsky, O.A. Viltsanyuk, M.D. Zheliba et al; Surgical diseases Edited by P.D. Fomin, J.S. Bereznitsky VSV "MEDICINE" 2017
9. Emergency conditions in surgery: textbook (Higher education institution I-III g.a.) / K.M. Bobok, A.I. Bobok, V.V. Kiretov et al.; ed. by L.M. Kovalchuk 2017
10. Surgery Pidrychnyk Edited by P. Kondratenko Znanie 2009
11. Hospital surgery: textbook / edited by L.Y. Kovalchuk, Y.P. Spizhenko, V.F. Sayenko, G.N. Knyshev. - F. Spizhenko, G.N. Kinshev, Ternopil: Ukrmedkniga, 1999. - – 590 c.
12. Hospital surgery / L. Kovalchuk, V. Saenko, G. Knyshev, M. Nykitaylo. - Ternopil: Ukrmedknyha, 2004. - – 472 p.
13. Surgical diseases: textbook. - Simferopol, 2005. - – 368 p
14. Pediatric Surgery: Textbook / V.I. Sushko, D.Yu. Danilov, V.A. Digtyar, etc., ed. by V.I. Sushko, D.Yu. - 2nd ed., revised. and supplement. - M.: Medicine, 2009. - – 800 c.
15. Dolnitsky O.V., Krivchenya D.Y., Polishchuk M.E. Pediatric Traumatology. - K.: Kniga-plus, 2006. - – 472 c.
16. Defects in children (independent classroom and out-of-classroom work of students) / V.A. Digtyar, V.I. Sushko, L.M. Kharitonyuk, A.M. Barsuk et al. / Dnipropetrovsk, 2011 -334 p.
17. Venous thrombosis and its complications: Textbook for students III-IV / Ed. by prof. L. Y. Kovalchuk. - Ternopil: Ukrmedkniga, 2011.

### **6.2. Optional:**

1. M.D. Zheliba, S.D. Khimich, I.D. Gerich et al. General Surgery: Textbook for Med. Vuzn. iv. acred. Approved by Ministry of Education and Science 2010.
2. Surgical Diseases. (Edited by P.G. Kondratenko). - Kharkiv: Fakty, 2006. - – C. 262-292.
3. Acute surgical diseases of the abdominal cavity organs / Ed. by I.Yu. - Chernivtsi, 1999. - – C. 76-96.
4. Faculty Surgery. Edited by V.A. Shidlovskii and M.P. Zakharash. Ternopil. "Ukrmedkniga. 2002 r.

5. Faculty Surgery. Edited by V.A. Shidlovskii and M.P. Zakharash. Ternopil. "Ukrmedkniga. 2002 r.
6. Endoscopy of the digestive tract. Ed. by V.I. Kimakovich and V.I. Nikishaev - "Medicine of the World", 2008. - – 208c.
7. Surgery: textbook for students of the Faculty of Dentistry / [Malik S.V., Polevoy V.P., Trofimov M.V., Sheiko V.D. et al. - Vinnytsia: Novaya Kniga, 2020. - – 440 c.
8. Lysenko B.P., Sheiko V.D., Khimich S.D. Surgery: textbook for students of the Faculty of Dentistry // Kiev, "Medicine", 2010, 712p.
9. Sheiko V. D. Surgery of emergencies: textbook / V. D. Sheiko, S. I. Panasenko, A. L. Chelishvili; MH of Ukraine, UMSA. - Poltava: Astrava, 2019. - – 217 c.
10. Chelishvili A.L. Symptoms and syndromes in emergency surgery of abdominal cavity organs: textbook. [for students of higher education institutions] / A.L. Chelishvili, V.E. Litvinenko. - Poltava, 2004. - – 99 c.
11. Malik S.V. Emergency surgery: textbook. [for students of higher education institutions] / Malik S.V., Chelishvili A.L., Lysenko R.B., Lavrenko D.A., Kapustyansky D.V., Bezruchko M.V. - Poltava, 2015. - – 155c.
12. Malik S.V. Special surgery: textbook. [for students of higher education institutions] / Malik S.V., Lysenko B.P., Chelishvili A.L., Lysenko R.B., Lavrenko D.A., Kapustyansky D.V., Bezruchko M.V., Osipov A.S. , Podlesny V.I. Dikhtenko T.G., Kucher A.P. - Poltava, 2015. - – 230c.
13. Malik S.V. General surgery: textbook. [for students of higher education institutions] / Malik S.V., Lysenko B.P., Chelishvili A.L., Lysenko R.B., Lavrenko D.A., Kapustiansky D.V., Bezruchko M.V., Osipov A.S. , Podlesny V.I. Dikhtenko T.G., Kucher A.P. - Poltava, 2015. - – 145c
14. Congenital malformations. Bases of diagnostics and treatment: monograph / O.V.Dolnitsky, V.A.Galagan, O.V.Romadina - K., 2009 - 1040 p.
15. Kovalchuk L.Y., Venger I.K., Goshinsky V.B. Clinical phlebology: Textbook. - Ternopil: TSMU. 2008. - 288 c

### **6.3 Information resources**

1. <http://www.mayo.edu/research>(Mayo Clinic, USA).
2. <http://videlectures.net/Top/Medicine/>(A collection of high quality medical video lectures from around the world).
3. <https://med-expert.com.ua/journals/ru/publishing-activity-uk/> (MedExpert journals)
4. <http://medlib.dp.gov.ua/jirbis2/ru/medical-periodes/fond-publications-list/364-khirurgiya.html> (Surgery. Pirogov Journal 2017-2020)
5. <https://www.thelancet.com/journals/lancet/home> (The Lancet)
6. <https://pubmed.ncbi.nlm.nih.gov> (PubMed)