

Ministry of Healthcare of Ukraine
Poltava state medical university

Department of surgery № 2

«AGREED»

Guarantor of the academic program
in specialty 222 «Medicine»

_____ I. Skrypnyk

“ _____ ” _____ 2023 year.

«APPROVED»

Chairman of the Academic Council of the
Faculty № 1

_____ M. Riabushko

Minutes as of _____ 2023 No.____

SYLLABUS

Surgery, including pediatric surgery

(title of the academic discipline)

Compulsory discipline

(compulsory / selective discipline)

academic and professional level	the second (master's) level of higher education
field of knowledge	22 «Healthcare»
specialty	222 «Medicine»
academic qualification	Master of Medicine
professional qualification	Medical Doctor
academic and professional program	222 «Medicine»
mode of study	full-time
course(s) and semester(s) of study of the discipline	V course, IX semester

Module 1. Symptoms and syndromes in surgery

«RESOLVED»

at the meeting of the Department of surgery № 2

Head of the Department _____ V. Sheiko

Minutes as of _____ 2023 No.

INFORMATION ABOUT TEACHERS, WHO TEACH AN ACADEMIC DISCIPLINE

Department of Surgery 1

Surname, first name, patronymic of teachers, scientific degree, academic title	V. I. Liakhovskyi, Doctor of Medical Sciences, Professor R. B. Lysenko, Doctor of Medical Sciences, associate professor I. I. Niemchenko, Candidate of Medical Sciences, associate professor O. M. Liulka, Candidate of Medical Sciences, associate professor T. V. Horodova-Andrieieva, assistant professor R. M. Riabushko, Candidate of Medical Sciences, associate O. H. Krasnov, Candidate of Medical Sciences, associate professor A. V. Sydorenko, assistant
Profile of teachers	https://surgery-one.pdmu.edu.ua/team
Contact phone number	(0532)-56-01-68
E-mail:	kaf.hirurgiya.1@gmail.com
Department page on the PSMU website	https://surgery-one.pdmu.edu.ua

Department of Surgery 2

Surname, first name, patronymic of teachers, scientific degree, academic title	Vladimir D. Sheiko, Dr. of medicine, Professor of Surgery. Alexander A. Kryzhanovsky, Ph.D., Associate Professor. Denis V. Kapustyansky, Ph.D, Associate Professor. Sergey P. Kravchenko, Ph.D, Associate Professor. Alexander A. Shkurupiy, Ph.D., Associate Professor. Sergey V. Dolzhkovoy, Ph.D., Associate Professor. Aykanush G. Oganessian, Ph.D., Associate Professor. Dmitry A. Sytnik, Ph.D., assistant. Alexey U. Cherkun, Ph.D., assistant. Vladimir V. Kasyan, Ph.D., assistant.
Profile of teachers	https://surgery-two.pdmu.edu.ua/team
Contact phone number	066-0078598, 093-2963908
E-mail:	surgery2@pdmu.edu.ua
Department page on the PSMU website	https://surgery-two.pdmu.edu.ua

MAIN CHARACTERISTICS OF THE ACADEMIC DISCIPLINE

Module 1. Symptoms and syndromes in surgery

Number of credits / hours – **9.0 / 270**, of which:

Lectures (hours) – **0**

Practical classes (hours) – **134**

Self-directed work (hours) – **136**

Type of control – final module control (FMC)

Politics of educational discipline.

During organization of educational process in PSMU teachers and students operate in accordance with:

- Academic and professional programs “Medicine”;
- Principles about organization of educational process in the Poltava State Medical University;

- Principles about academic respectability of students and teachers of the Poltava State Medical University;
- Principles of internal order are for the students of the Poltava State Medical University;
- Principles is about organization and methodology of realization of evaluation of educational activity of students in the Poltava State Medical University;
- Principles is about organization of independent work of students in the Poltava State Medical University;
- Principles about reworking off the skipped employments and unsatisfactory estimations by the students of the Poltava State Medical University;
- Principles about the order of forming of individual educational trajectories of students of Poltava State Medical University;
- Principles about the appeal of results of final control of knowledge of students;
- Principles about rating of students of the Poltava State Medical University;
- Position about material encouragement of students of the Poltava State Medical University.

Details of the above provisions can be found at:

<https://www.pdmu.edu.ua/n-process/departament-npr/normativni-dokumenti>

Description of the academic discipline (summary):

Module 1. Symptoms and syndromes in surgery of the discipline "Surgery, including pediatric surgery" studies surgical diseases in patients, their etiology, pathogenesis, clinic, diagnosis, modern methods of treatment and prevention. Mastering the module material will provide an opportunity to gain practical skills and develop professional skills in the diagnosis and treatment of these diseases.

Pre-requisites and post-requisites of the academic discipline (interdisciplinary links):

Study of module 1. Symptoms and syndromes in surgery is based on the knowledge gained by students during the mastery of the following fundamental theoretical and clinical disciplines: "Human Anatomy", "Histology, Cytology and Embryology", "Physiology", "Pathomorphology", "Pathophysiology", "Pharmacology", "Clinical Anatomy and Operative Surgery", "Propaedeutics of Internal Medicine", "Radiology", "Internal Medicine, include Clinical Pharmacology, Clinical Immunology and Allergology, Professional Diseases", "Endocrinology", "Obstetrics and Gynecology", "Traumatology and Orthopedics", "Neurosurgery", "Anesthesiology and Intensive Care", "General Surgery", etc. These interactions form the ability to apply knowledge in the process of a doctor's professional activity.

The aim and tasks of the academic discipline:

The aim of studying the module 1. Symptoms and syndromes in surgery are: mastering systematic knowledge of the structure of the human body, the etiology, pathogenesis, typical and atypical clinical manifestations of surgical diseases, the principles of clinical diagnosis, methods of diagnostic search and determination of further tactics of conservative and surgical treatment, principles of implementation and volume of surgical interventions for various pathologies, skills of care for surgical patients, their rehabilitation in the postoperative period.

The main tasks of studying the module 1, are: Symptoms and syndromes in surgery are: the formation of professional skills and abilities for the diagnosis and provision of medical care for surgical diseases; supervision of patients with surgical pathology; assessment of indicators of the functional state of organs and systems of the human body; determination of tactics of treatment of patients; mastering the basic surgical manipulations of the principles of surgical interventions; solving clinical situational problems and tests.

Competences and learning outcomes the formation of which is facilitated by the discipline (integral, general, special)

Integral:

Ability to solve typical and complex specialized problems and practical problems in professional activities in the field of health care, or in the learning process, which involves research and / or innovation and is characterized by a complex set of conditions and requirements.

General:

1. Ability to abstract thinking, analysis and synthesis, the ability to learn and master modern knowledge.
2. Ability to apply knowledge in practical situations.
3. Knowledge and understanding of the subject area and understanding of professional activity.
4. Ability to adapt and act in a new situation.
5. Ability to make informed decisions; work in a team; interpersonal skills.
6. Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language. Ability to use international Greco-Latin terms, abbreviations and clichés in professional oral and written speech.
7. Skills in the use of information and communication technologies.
8. Definiteness and perseverance in terms of tasks and responsibilities.
9. The ability to act socially responsibly and consciously.

Special (professional, subject):

1. Patient interviewing skills
2. Ability to determine the required list of laboratory and instrumental studies and evaluate their results
3. Ability to establish a preliminary and clinical diagnosis of the disease
4. Ability to determine the required mode of work and rest in the treatment of diseases
5. Ability to determine the nature of nutrition in the treatment of diseases.
6. Ability to determine the principles and nature of treatment of diseases
7. Ability to diagnose emergencies
8. Ability to determine the tactics of emergency medical care
9. Skills in providing emergency medical care
10. Ability to carry out medical and evacuation measures
11. Skills of medical manipulations
12. Ability to carry out sanitary and hygienic and preventive measures
13. Ability to determine the tactics of management of persons subject to dispensary supervision.
14. Ability to conduct a performance examination
15. Ability to keep medical records
16. Ability to analyze the activities of a doctor, department, health care institution, take measures to ensure the quality of medical care and improve the efficiency of medical resources.

Program learning outcomes

1. To know the structure and functions of individual organs and systems and the human body as a whole in the norm, with the development of pathological processes, diseases; be able to use the acquired knowledge in further training and in the practice of the doctor
2. Collect data on patient complaints, life history (professional history in particular) in the conditions of the health care institution and / or at the patient's home, according to the standard survey scheme
3. Assign and analyze additional (mandatory and optional) examination methods (laboratory, radiological, functional and / or instrumental). Evaluate information for the purpose of differential diagnosis of diseases, using knowledge about the person, his organs and systems, based on the results of laboratory and instrumental studies
4. Establish preliminary and clinical diagnosis of the disease on the basis of leading clinical symptoms or syndromes by making an informed decision and logical analysis, using the most probable or syndrome diagnosis, laboratory and instrumental examination of the patient, conclusions of differential diagnosis, knowledge of man, his organs and systems, adhering to the relevant ethical and legal norms

5. To determine the necessary mode of work and rest in the treatment of the disease in a health care facility, at home of the patient and at the stages of medical evacuation, including in the field, on the basis of a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes
6. Prescribe the necessary medical nutrition in the treatment of the disease, in a health care facility, at the patient's home and at the stages of medical evacuation, including in the field on the basis of a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes
7. To determine the nature of treatment of the disease (conservative, operative) and its principles in the conditions of the health care institution, at the patient's home and at the stages of medical evacuation, including in the field on the basis of a preliminary clinical diagnosis, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes
8. Carry out diagnostics of emergencies and establish a diagnosis by making an informed decision and assessing a person's condition under any circumstances (at home, on the street, in a health care facility), including in emergency situations, in field conditions, in conditions of lack of information and limited time, using standard methods of physical examination and possible anamnesis, knowledge about a person, his organs and systems, adhering to the relevant ethical and legal norms
9. Determine the tactics of emergency medical care, under any circumstances, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the diagnosis in a limited time using standard schemes
10. Provide emergency medical care under any circumstances, using knowledge about the person, his organs and systems, adhering to the relevant ethical and legal norms, by making an informed decision, based on the diagnosis of emergency in a limited time according to certain tactics, using standard schemes
11. Organize and conduct medical and evacuation measures among the population and servicemen in emergency situations, including in the field, during the detailed stages of medical evacuation, taking into account the existing system of medical and evacuation support
12. To determine the tactics of management of persons subject to dispensary supervision in a health care institution or at the patient's home on the basis of the obtained data on the patient's state of health, using standard schemes, using knowledge about the person, his organs and systems, and legal norms, by making an informed decision
13. Carry out examination of working capacity by determining the presence and degree of disability, type, degree and duration of incapacity with the relevant documents in a health care facility on the basis of data on the disease and its course, features of professional activity
14. Maintain medical records of the patient and the population on the basis of regulations, using standard technology. Prepare reports on personal production activities, using official accounting documents in the standard form
15. Assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population. Analyze the incidence of the population, identifying risk groups, risk areas, time and risk factors in the health care facility, using statistical and laboratory methods
16. Carry out an analysis of the activities of a doctor, department, health care institution, identify defects in the activities and the reasons for their formation. Take measures to ensure the quality of medical care and improve the efficiency of medical resources
17. Adhere to a healthy lifestyle, use the techniques of self-regulation and self-control
18. To be aware of and guided in their activities by civil rights, freedoms and responsibilities, to constantly improve their professional and cultural levels
19. Adhere to the requirements of ethics, bioethics and deontology in their professional activities

20. Ensure the necessary level of individual safety (own and those cared for) in the event of typical dangerous situations in the individual field of activity.

Learning outcomes of the academic discipline:

Upon completing study in the academic discipline, students must

Know:

- diagnostic methods, algorithms of conservative and operative treatment of surgical diseases depending on symptomatic and syndromal features of their clinical signs;
- differential diagnosis with other acute diseases of the abdominal cavity, extraperitoneal space and chest;
- principles of postoperative treatment and rehabilitation of patients with surgical pathology;
- modern methods of diagnosis and treatment, postoperative supervision and rehabilitation of surgical patients;
- general principles of treatment, rehabilitation and prevention of the most common surgical diseases;
- emergency medical care for urgent surgical diseases;
- diagnostic methods, algorithms of conservative and operative treatment of surgical diseases of the digestive system, cardiovascular and respiratory systems depending on the symptomatic and syndromal features of their clinical signs;
- risk factors for complications of diseases of the digestive system, cardiovascular and respiratory systems;
- results of laboratorial and instrumental studies of the digestive system, cardiovascular and respiratory systems;
- how to work with medical records in the clinic of surgical diseases;
- moral and deontological principles of a medical specialist and the principles of professional subordination in surgery.

Be able to:

1. Collect data on patient complaints, life history according to the standard survey scheme
2. Assign and analyze additional survey methods. Evaluate information for the purpose of differential diagnosis of diseases based on the results of laboratory and instrumental studies
3. To establish the preliminary and clinical diagnosis of the disease on the basis of the leading clinical symptoms or syndromes, using the data of laboratory and instrumental examination of the patient, the conclusions of the differential diagnosis
4. Determine the necessary mode of work and rest in the treatment of surgical diseases
5. Prescribe the necessary medical nutrition in the treatment of surgical diseases.
6. To determine the nature of treatment of the disease (conservative, operative) and its principles on the basis of a preliminary clinical diagnosis
7. Diagnose emergencies and establish the diagnosis using standard methods of physical examination and possible history
8. Determine the tactics of emergency medical care, under any circumstances, on the basis of the diagnosis in a limited time with the help of standard schemes
9. Provide emergency medical care under any circumstances, on the basis of a diagnosis of emergency in a limited time in accordance with certain tactics
10. Perform medical manipulations based on the previous clinical diagnosis and / or indicators of the patient's condition, using standard techniques
11. Maintain medical records on the basis of regulatory documents
12. Adhere to the requirements of ethics, bioethics and deontology in their professional activities.

Thematic plan of lectures by modules, specifying the basic issues, which are considered at the lectures – not available

Thematic plan of practical classes by modules and content modules, specifying the basic issues, which are considered at the practical class.

Module 1. Symptoms and syndromes in surgery

№	Title of the topic	Number of hours
1.	Purulent diseases of the skin and soft tissues. Diagnosis, differential diagnosis. Methods of conservative and surgical treatment. Rules of antibiotic therapy in the prevention and treatment of surgical infection Questions. The depth of soft tissue damage according to Ahrenholz D.H. 1991. Boil. Carbuncle. Abscess. Phlegmon. Erysipelas. Erysipeloid. Hydradenitis. Anaerobic clostridial and non-clostridial infection: necrotic cellulitis fasciitis. Clinic, diagnosis, treatment. Empirical and targeted antibiotic therapy. Antibiotic resistance and ways to prevent its development.	6,7
2.	Sepsis. Pathogenesis, clinic, diagnosis, treatment. Systemic inflammatory response syndrome Questions. Systemic inflammatory response syndrome. Definition of sepsis. Consensus Sepsis II and III. Factors contributing to the development and spread of infection. Multiple organ failure. Septic shock. Methods of examination of septic patients. Treatment of sepsis and septic shock.	6,7
3.	Shock in surgical patients. Types, causes, diagnosis, treatment tactics. Critical conditions in surgical patients Questions. Types of shock by the nature of hemodynamic disorders. General clinical signs of shock. Clinic, diagnosis of shock. Treatment of various types of shock.	6,7
4.	Stomach ache. Acute abdomen syndrome. Diagnosis and treatment tactics. Differential diagnosis of acute diseases of the abdominal cavity and their complications Questions. Types of abdominal pain: peptic, spastic, ischemic pain, peritonitis. Determination of acute abdomen. Objective examination of patients with acute abdominal pain. Differential diagnosis of acute diseases of the abdominal cavity by the nature of pain. Tactics of treatment of various acute diseases of the abdominal cavity.	6,7
5.	Syndromes of dysphagia, vomiting and violation of the act of defecation. Significance in diagnosis and differential diagnosis. Medical tactics Questions. The concept and types of dysphagia, causes. Impaired patency of the esophagus, duodenum, small and large intestine. Clinic, diagnosis, treatment. The main causes of vomiting syndrome. Special instrumental methods of examination of the esophagus and stomach. Violation of the act of defecation, causes, diagnosis and treatment.	6,7
6.	Local and widespread purulent-inflammatory processes of the abdominal cavity and peritoneum. Etiology, pathogenesis, clinic, diagnosis and treatment. Variants of atypical course, possible complications Questions. Anatomical and physiological information about the peritoneum. Causes of peritonitis. Clinic, diagnosis of peritonitis, Principles of treatment of peritonitis - surgical, general. Correction of water-electrolyte and protein disorders in peritonitis. Staged treatment of peritonitis.	6,7
7.	Obstructive jaundice. Causes. Differential diagnostic tactics. Modern approaches to treatment Questions. Anatomical and physiological information about the liver, gallbladder, bile ducts. Types of jaundice, causes. Differential diagnosis of jaundice. Laboratory signs of different types of jaundice. The main methods of examination in diseases of the liver and biliary tract (CT, MRI, ERCP). Therapeutic tactics for obstructive jaundice of non-neoplastic and tumoral origin. Endoscopic methods of treatment of obstructive jaundice.	6,7
8.	Bleeding from the digestive tract. Causes, clinic, diagnosis, differential diagnosis, treatment tactics Questions. The main etiological factors of gastrointestinal bleeding. Clinical signs of bleeding from the upper and lower gastrointestinal tract. Varicose and non-varicose bleeding from the upper gastrointestinal tract. Determining the degree of blood loss. Emergency care for SCC. Degrees of hemostasis according to Forrest. Endoscopic methods of stopping acute SCC. Restoration of BCC and blood transfusion for ongoing bleeding. Prevention of recurrence of non-varicose and varicose SCC. Indications for surgical treatment.	6,7

9.	<p>Traumas of life. Symptoms of damage to the abdominal organs and retro-peritoneal space. Clinic, diagnostics, treatment tactics</p> <p>Question. Classification of injuries of abdominal organs. Clinic. Urgent diagnosis and FAST protocol. Hemoperitoneum in trauma: clinic, diagnosis, treatment tactics. Post-traumatic peritonitis: clinic, diagnosis, treatment tactics. Emergency care for victims of abdominal injuries. Indications for emergency laparotomy. Damage control tactics. Reinfusion of blood with intra-abdominal bleeding. CT and conservative / non-surgical treatment of internal organ damage.</p>	6,7
10.	<p>Features of the course of surgical diseases in pregnant women. Clinic, diagnosis, treatment tactics. Features of the course of acute surgical diseases in the elderly</p> <p>Question. Anatomical - physiological features during pregnancy and in the elderly. Causes of acute abdominal pain in pregnant women. Differential diagnosis, taking into account laboratory and instrumental imaging methods (rentren, ultrasound, CT, MRI). Tactics and features of treatment of acute surgical diseases in pregnant women. Features of the course of acute surgical diseases in the elderly, diagnostic and treatment tactics.</p>	6,7
11.	<p>Surgical complications in patients with infectious pathology. Differential diagnosis and treatment tactics</p> <p>Question. Etiology and pathogenesis of surgical complications in intestinal infections. Peritoneal syndrome in infectious diseases. Laboratory and instrumental diagnostics. Surgical tactics for surgical complications of infectious diseases. Surgical care in a pandemic and quarantine.</p>	6,7
12.	<p>Modern methods of diagnosis and treatment of diseases of the cardiovascular system. Syndromes of chest pain, respiratory and heart failure</p> <p>Question. Surgical anatomy of the chest. Clinical and morphological classification of heart diseases. Examination methods for heart disease. Acute coronary syndrome with and without ST-segment elevation. BODIES. Differential diagnosis of chest pain. Minimally invasive methods of diagnosis and treatment of heart disease.</p>	6,7
13.	<p>Surgical pathology of the lungs and pleura. Variants of atypical course, possible complications. Principles of diagnosis and treatment</p> <p>Question. Surgical anatomy of the lungs and pleura. Spontaneous pneumothorax, bullous disease. Acute and chronic lung abscess. Pulmonary gangrene. Clinic, diagnosis, conservative and surgical treatment. Acute and chronic pleural empyema, etiology, pathogenesis. Clinical manifestations of limited and total pleural empyema, pyopneumothorax. Additional survey methods. Indications and technique of puncture and drainage of the pleural cavity. Indications for surgical treatment.</p>	6,7
14.	<p>Damage to the thoracic cavity. Clinic and diagnosis of pneumothorax, hemothorax. Heart damage. Clinical-diagnostic and medical-surgical tactics</p> <p>Question. Classification of chest injuries. Research methods for OGK damage. Rib fractures, floating rib fractures. Pneumothorax, hemothorax, clinic, diagnosis, treatment. Emergency care for open and intense pneumothorax, massive hemothorax, multiple fractures of the ribs. Cardiac tamponade. Clinic, diagnosis, emergency care.</p>	6,7
15.	<p>Occlusive diseases of the arteries. Aortic arch syndrome. Clinic, diagnosis, conservative and surgical treatment</p> <p>Question. Etiology and pathogenesis of obliterating atherosclerosis, endarteritis. Leric'h's syndrome. Raynaud's disease. Classification, clinic, diagnostic methods (PC-index, doppleroscopy, angiography). Methods of treatment of chronic obliterating diseases of the arteries of the lower extremities. Endovascular and shunt interventions, limb amputations.</p>	6,7
16.	<p>Pain in the extremities. Carrying out differential diagnosis of vascular diseases, lesions of the nervous system and pathology of the musculoskeletal system</p> <p>Question. Diseases that can cause pain in the extremities. Differential diagnosis of acute and chronic pain in the extremities. Pain in the extremities in diseases of the musculoskeletal system, diseases of the arteries, veins, systemic diseases. Clinic, diagnosis, treatment.</p>	6,7
17.	<p>Thrombosis and embolism of arteries. Causes, diagnosis, conservative and surgical treatment, prevention</p> <p>Question. Surgical anatomy of arteries. Etiology and pathogenesis of thrombosis and embolism. Clinic of embolism and thrombosis. Methods of diagnosis of arterial occlusions (CT and angiography). Endovascular methods of treatment of thrombosis and embolism, angioplasty and stenting. Anticoagulants, thrombolytic drugs in the structure of treatment of acute occlusion of</p>	6,7

	arteries. Prevention of acute arterial obstruction.	
18.	Diseases of the veins. Syndrome of the superior vena cava. Lower vena cava syndrome. Causes, diagnosis, differential diagnosis, treatment tactics Question. Vein anatomy, physiology of venous circulation. Etiology and pathogenesis of varicose veins. Clinic of varicose veins of the lower extremities. Diagnosis of patency of the veins of the lower extremities and the condition of their valves. Conservative, surgical and endovascular treatment of varicose veins of the lower extremities. Prevention of varicose veins of the lower extremities. Syndrome of the superior and inferior vena cava. Etiology, clinic, diagnosis, treatment.	6,7
19.	Phlebothrombosis and thrombophlebitis. Clinic, differential diagnosis, conservative and surgical treatment Question. Etiology and pathogenesis of thrombophlebitis and phlebothrombosis of the veins of the lower extremities. Clinical picture. Differential diagnosis of thrombophlebitis and phlebothrombosis of the veins of the lower extremities. Ileo-femoral thrombosis: white and blue phlegmas. Conservative and surgical treatment of thrombophlebitis and phlebothrombosis of the lower extremities. Paget-Schroeter syndrome: clinic, diagnosis, treatment.	6,7
20.	Final module control	6,7
	Total:	134

Self-directed work

Seq. No.	Title of the topic	Number of hours
1	Preparing to the practical lessons	128
2	Preparation for final module control	8
	Total	136

Individual tasks.

Mastering additional literature on the topics of the module

1. Symptoms and syndromes in surgery
2. Participation in the scientific work of the department
3. Participation in the work of the student scientific society
4. Preparation of a report for participation in a scientific student conference
5. Production of stands, educational videos, etc.

The list of theoretical questions for students' preparation for the final module control.

1. Boil. Carbuncle. Hydradenitis. Clinic, diagnosis, treatment.
2. Abscess. Phlegmon. Clinic, diagnosis, treatment.
3. Panaritium. Erysipeloid. Clinic, diagnosis, treatment.
4. Erysipelas. Clinic, diagnosis, treatment.
5. Anaerobic clostridial and non-clostridial infection. Necrotic cellulite. Necrotic fasciitis. Gas gangrene. Clinic, diagnosis, treatment.
6. Definition of sepsis, septic shock, multiple organ failure.
7. Clinical and laboratory signs of systemic inflammatory response syndrome, factors contributing to the development and spread of infection.
8. See the shock. General clinical signs of shock, diagnosis, treatment.
9. Septic shock. Clinic, diagnosis, treatment.
10. Types of abdominal pain (peptic, spastic, ischemic, peritonitis). Determination of acute abdomen.
11. Objective examination of patients with acute abdominal pain.
12. Differential diagnosis of acute diseases of the abdominal cavity by the nature of pain.
13. Tactics of treatment of acute appendicitis, acute cholecystitis, acute pancreatitis, peritonitis, acute intestinal obstruction.

14. The concept and types of dysphagia, causes.
15. Special instrumental methods of examination of the esophagus and stomach.
16. Tumors and strictures of the esophagus. Achalasia of the cardia. Clinic, diagnosis, treatment.
17. Violation of the act of defecation. Acute intestinal obstruction, inflammatory bowel disease: Crohn's disease, nonspecific ulcerative colitis. Hirschsprung's disease. Causes, diagnosis and treatment.
18. Causes of peritonitis. Clinic, diagnosis of peritonitis.
19. Principles of treatment of peritonitis - surgical, general.
20. Correction of water-electrolyte and protein disorders in peritonitis.
21. Stage surgical treatment of peritonitis.
22. Types of jaundice, causes. Differential diagnosis of jaundice.
23. Instrumental methods of examination in diseases of the liver and biliary tract (ultrasound, CT, MRI, ERCP).
24. Therapeutic tactics for obstructive jaundice of non-neoplastic and tumoral origin (percutaneous drainage of the gallbladder and bile ducts, endoscopic papillosphincterotomy, stenting of the ducts, open surgery).
25. The main etiological factors of bleeding from the upper and lower gastrointestinal tract.
26. Clinical signs of bleeding from the upper and lower gastrointestinal tract.
27. Determining the severity of blood loss. Emergency care for the gastrointestinal tract.
28. Endoscopic methods of stopping acute SCC. Risk of recurrence of bleeding according to Forrest.
29. Prevention of recurrence of varicose and non-varicose bleeding.
30. Indications for surgery for SCC.
31. Rules of BCC replenishment and ongoing blood transfusion in SCC.
32. Classification of injuries of abdominal organs, clinic, diagnosis.
33. Abdominal injury with hemoperitoneum, peritonitis. Urgent diagnosis and FAST protocol.
34. Indications for emergency laparotomy and non-surgical treatment of injuries in abdominal injuries.
35. Tactics of "damage control" in severe trauma to the abdominal cavity.
36. Anatomical and physiological features during pregnancy that affect the clinic and the course of acute surgical diseases.
37. Causes of acute abdominal pain in pregnant women. Differential diagnosis, taking into account laboratory and instrumental methods of examination.
38. Tactics and features of treatment of acute surgical diseases in pregnant women.
39. Features of the course of acute surgical diseases in the elderly, diagnostic and treatment tactics.
40. Etiology and pathogenesis of surgical complications in intestinal infections.
41. Peritoneal syndrome in infectious diseases. Laboratory and instrumental diagnostics.
42. Tactics of treatment for surgical complications of infectious diseases, in a pandemic and quarantine.
43. Surgical anatomy of the chest.
44. Examination methods for heart disease. Acute coronary syndrome with and without ST-segment elevation. Cardiac arrhythmias.
45. Minimally invasive methods of diagnosis and treatment of heart disease.
46. Anatomy - physiological information about the lungs and pleura.
47. Acute and chronic lung abscess. Clinic, diagnosis, treatment.
48. Bronchiectasis. Clinic, diagnosis, treatment.
49. Spontaneous pneumothorax, bullous disease. Clinic, diagnosis, treatment.
50. Pulmonary gangrene, etiology, pathogenesis. Clinic, diagnosis, treatment.
51. Acute and chronic pleural empyema, etiology, pathogenesis.
52. Clinical manifestations of pyopneumothorax. Additional survey methods.
53. Indications and technique of puncture and drainage of the pleural cavity.
54. Classification of injuries of the chest.

55. Urgent diagnosis of OGK injuries.
56. Rib fractures, floating rib fractures. Clinic, diagnosis, treatment.
57. Pneumothorax. Clinic, diagnosis, treatment. Emergency care for open and intense pneumothorax.
58. Hemothorax. Clinic, diagnosis, treatment.
59. Cardiac tamponade. Clinic, diagnosis, emergency care.
60. Surgical anatomy of arteries.
61. Etiology and pathogenesis of obliterating atherosclerosis. Clinic, diagnosis (PC index, Doppler, angiography), treatment.
62. Etiology and pathogenesis of endarteritis obliterans. Clinic, diagnosis (PC index, Doppler, angiography), treatment.
63. Leriche's syndrome. Clinic, diagnosis. Endovascular and bypass surgery.
64. Raynaud's disease. Clinic, diagnosis, treatment.
65. Methods of treatment of chronic obliterating diseases of the arteries of the lower extremities (conservative, endovascular, shunt surgery, limb amputations).
66. Differential diagnosis of acute and chronic pain in the extremities.
67. Etiology and pathogenesis of thrombosis and embolism. Clinic, diagnosis, treatment of acute occlusion of the arteries of the extremities.
68. Surgical treatment of acute arterial thrombosis and embolism. Endovascular and open interventions.
69. Anticoagulants, thrombolytic drugs in the structure of treatment of acute occlusion of arteries. Selective thrombolysis.
70. Prevention of acute arterial obstruction.
71. Etiology, pathogenesis, clinic and diagnosis of varicose veins of the lower extremities.
72. Diagnosis of patency of the veins of the lower extremities and the condition of their valves.
73. Conservative, surgical and endovascular treatment of varicose veins of the lower extremities.
74. Thrombophlebitis of the lower extremities. Clinic, diagnosis, treatment.
75. Phlebothrombosis of the veins of the lower extremities. Ileo-femoral thrombosis: white and blue phlegmasies. Clinic, diagnosis, treatment.
76. Conservative and surgical treatment of thrombophlebitis of the lower extremities.
77. Conservative and surgical treatment of phlebothrombosis of the veins of the lower extremities.
78. Paget-Schroeter syndrome. Clinic, diagnosis, treatment.
79. Pulmonary embolism. Clinic, diagnosis, treatment, prevention.

The list of practical skills required for the final module control).

1. Identification of key clinical and anamnestic signs of acute surgical pathology.
2. Drawing up an individual diagnostic program of examination of the patient.
3. Interpretation of the results of laboratory and instrumental research methods.
4. Carrying out differential diagnosis of surgical diseases by dominant syndromes.
5. Individual approach to the appointment of Röntgen, CT and MRI for the diagnosis of acute surgical diseases.
6. Substantiation and formulation of the preliminary diagnosis by dominant syndromes.
7. Determination of indications for surgery in acute surgical pathology and injuries of the abdominal cavity.
8. Applying and replacing bandages.
9. Keeping a medical history of a surgical patient.
10. Providing emergency care for injuries and life-threatening symptoms.
11. Evaluation of phlebo- and angiograms.
12. Evaluation of radiographs of the thoracic cavity.
13. Evaluation of radiographs of the abdominal cavity.
14. Puncture of the pleural cavity in pneumothorax.
15. Drainage of the pleural cavity in hemo- and pneumothorax.

16. Imposition of an occlusive dressing in open pneumothorax.
17. Novocaine blockade in rib fractures.
18. Fixation of the chest wall with floating fractures of the ribs.
19. Determination of blood groups and rhesus affiliation. Compatibility tests before blood transfusion.
20. Methods of temporary cessation of external bleeding. Rules for applying the tourniquet.
21. Assessment of the severity of the patient's condition in acute surgical diseases and injuries.

The form of final control of academic performance – final module control (FMC).

The system of continuous and final control.

The current control is carried out by the researcher and pedagogue systematically, during practical classes, the implementation of a specific type of work provided by the working curriculum of module 1. Symptoms and syndromes in surgery.

With the beginning of the teaching of module 1, the requirements for current control are brought to the notice of higher education students. The teacher must assess the success of each student in each class on a four-point (traditional) scale, taking into account standardized, generalized criteria for assessing the knowledge of higher education.

Tab. 1

Standardized general criteria for assessing the knowledge of higher education applicants of PSMU

By 4-grade scale	Grade of ECTS	Criteria
5 (excellent)	A	The student shows special creative abilities, is able to acquire knowledge independently, without the help of the teacher finds and processes the necessary information, is able to use the acquired knowledge and skills for decision-making in unusual situations, convincingly argues answers, independently reveals own talents and inclinations, possesses not less than 90 % of knowledge on the topic both during the survey and all types of control.
4 (good)	B	The student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standardized situations, independently corrects errors, the number of which is insignificant, has at least 85% knowledge of the topic as during the survey, and all types of control .
	C	The student is able to compare, summarize, systematize information under the guidance of a scientific and pedagogical worker, in general, independently apply it in practice, control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm opinions, has at least 75% of knowledge on the topic both during the survey and all types of control.
3 (satisfactorily)	D	The student reproduces a significant part of theoretical material, shows knowledge and understanding of the basic provisions with the help of a researcher can analyze educational material, correct errors, among which there are a significant number of significant, has at least 65% knowledge of the topic, and during the survey, and all types of control.
	E	The student has the educational material at a level higher than the initial, a significant part of it reproduces at the reproductive

		level. has at least 60% knowledge of the topic both during the survey and all types of control.
2 (unsatisfactorily)	FX	The student has the material at the level of individual fragments that make up a small part of the material, has less than 60% knowledge of the topic both during the survey and all types of control.
	F	The student has the material at the level of elementary recognition and reproduction of individual facts, elements, has less than 60% knowledge of the topic as during the survey, and all types of control.

After studying all the topics of module 1, the conversion of the total assessment of current performance for the module on the traditional 4-point scale to multi-point (maximum 120 points) according to table 2.

Tab 2

Unified table of correspondence of scores for current performance, scores for TMC, exam, and traditional four-point score.

Average score for current performance (A)	Points for current success in the module (A * 24)	Points for FMC with module (A*16)	Points for the module and / or exam (A*24 + A*16)	ECTS category	By 4-point scale
2	48	32	80	F FX	2 unsatisfactorily
2,1	50	34	84		
2,15	52	34	86		
2,2	53	35	88		
2,25	54	36	90		
2,3	55	37	92		
2,35	56	38	94		
2,4	58	38	96		
2,45	59	39	98		
2,5	60	40	100		
2,55	61	41	102		
2,6	62	42	104		
2,65	64	42	106		
2,7	65	43	108		
2,75	66	44	110		
2,8	67	45	112		
2,85	68	46	114		
2,9	70	46	116		
2,95	71	47	118		
3	72	50	122	E	3 satisfactorily
3,05	73	50	123		
3,1	74	50	124		
3,15	76	50	126		
3,2	77	51	128		

3,25	78	52	130	D	4 good			
3,3	79	53	132					
3,35	80	54	134					
3,4	82	54	136					
3,45	83	55	138					
3,5	84	56	140	C		4 good		
3,55	85	57	142					
3,6	86	58	144					
3,65	88	58	146					
3,7	89	59	148					
3,75	90	60	150					
3,8	91	61	152					
3,85	92	62	154					
3,9	94	62	156					
3,95	95	63	158					
4	96	64	160	B			4 good	
4,05	97	65	162					
4,1	98	66	164					
4,15	100	66	166					
4,2	101	67	168					
4,25	102	68	170					
4,3	103	69	172					
4,35	104	70	174					
4,4	106	70	176					
4,45	107	71	178					
4,5	108	72	180		A	5 excellent		
4,55	109	73	182					
4,6	110	74	184					
4,65	112	74	186					
4,7	113	75	188					
4,75	114	76	190					
4,8	115	77	192					
4,85	116	78	194					
4,9	118	78	196					
4,95	119	79	198					
5	120	80	200					

Students who are allowed to take the final module control:

- were present at all practical classes and lectures, or worked out the missed classes in the prescribed order
- have a current assessment, not lower than the minimum convertible amount of points of current study activity - 72 points
- have in the individual curriculum (record book) a mark of admission to the exams

FMC is held at the last lesson of the cycle and consists of two stages. The first stage is a written answer to the ticket. The ticket contains two tasks. In each problem there are four points to which the student must answer: make a preliminary diagnosis; make a survey plan; determine tactics and methods of treatment; write a letter of appointment. For the first stage of FMC the student receives a maximum of 40 points.

The second stage of FMC is performed at the patient's bedside. The student must perform certain stages of physical examination: palpation, percussion, auscultation, check for specific symptoms, make a preliminary diagnosis, appoint a plan of additional examinations, determine treatment tactics. For the second stage of FMC the student receives a maximum of 40 points.

The maximum number of points for the final module control is 80 points. The minimum number of points is 50.

Students who during the study of the module, which is the final module control, had an average score of current performance from 4.50 to 5.0 are exempt from the FMC and automatically (by agreement) receive a final grade, respectively (table 2), with the presence a student at the FMC is required.

Studying methods.

- 1) Verbal (lecture, explanation, story, conversation, instruction)
- 2) Visual (multimedia presentations, videos, broadcasts from the operating room)
- 3) Practical:
 - preparation for practical classes
 - independent elaboration of topics that are not included in the plan of classroom classes
 - solving test tasks
 - mastering the technique of performing surgical manipulations
 - work in a student scientific circle, writing scientific articles
 - thematic discussions
 - brain storm
 - Round Table
 - analysis of specific situations (case method)
 - simulation tasks
 - problem statement
 - presentations
 - trainings
 - business games

Control methods.

- interview examination
- written survey
- testing

Methodological support.

- methodical recommendations for scientific and pedagogical workers before conducting practical classes
- methodical instructions for independent work of students during preparation for practical employment and at employment
- methodical instructions for independent work of students at studying of the subjects brought on independent working out
- a set of tests and situational tasks for practical topics
- sets of tests and situational tasks from the bank of licensing exams and their analogues for each lesson
- textbooks, manuals on surgery, educational videos.

Recommended reading.

1. Base.

1. Surgery : [textbook for students of higher medical educational institutions of Ministry of Health of Ukraine] / ed. Ya. S. Bereznyts'kyu, M. P. Zakharash, V. G. Mishalov ; K. M. Amosova, Ya. S. Bereznyts'kyu, A. O. Burka [et al.]. – 2nd ed. – Vinnytsia : Nova Knyha, 2018. – 711 p.
2. Urgent abdominal surgery : [навчальний посібник для студентів мед. ф-тів. закладів вищої мед. освіти, які навч. англ. мовою] / V. I. Liakhovskyi, I. I. Nemchenko, O. M. Liulka [at al.]; під ред. В. І. Ляховського ; Ministry of healthcare of Ukraine, UMSA, Department of surgery № 1. – Poltava : Астрая, 2020. – 163 p.

2. Additional information.

1. General surgery : [textbook for students of higher educational institutions] : пер. з укр. / ed. Ya. S. Bereznytsky, M. P. Zakharash, V. G. Mishalov, V. O. Shidlovsky ; V. P. Andriushchenko, Ya. S. Bereznytsky, A. V. Verba [et al.]. – Vinnytsia : Nova Knyha, 2019. – 327 p.

Information resources

<https://www.yumpu.com/en/document/view/20435318/hospital-surgery-kovalchuk-2004-200-dpipdf>
<https://www.amazon.com/Gale-Encyclopedia-Surgery-Patients-Caregivers/dp/0787691232>
<https://oxfordmedicine.com/view/10.1093/med/9780199699476.001.0001/med-9780199699476>
<https://ur.b-ok.global/book/2222565/91d31e>
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Developers:

V.D. Sheyko, Full Professor, Professor of Surgery
O.A. Kryzhanovskiy, PhD, Associate Professor
D.A. Sitnik, assistant of Professor