

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

SUMY STATE UNIVERSITY

Academic and Research Medical Institute

Кафедра хірургії, травматології, ортопедії та фтизіатрії

SURGERY

Higher education level	The Second
Major: study programme	222 Medicine: Medicine

Approved by Quality Council

Protocol dated _____ № _____

Chairman of the Quality Council

Petrashenko Viktoriia
Oleksandrivna

DATA ON REVIEWS AND APPROVAL

Author

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Duzhyi Ihor Dmytrovych

Review of the course descriptor	<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/>
Considered and approved at the meeting of the work group of Study programme Медицина	Protocol dated _____ № _____ Head of the work group (Head of the Study programme) _____ Prystupa Liudmyla Nykodymivna
Considered and approved at the meeting of the Кафедра хірургії, травматології, ортопедії та фтизіатрії	Protocol dated _____ № _____ Head of the Department _____ Duzhyi Ihor Dmytrovych

SYLLABUS

1. General information on the course

Full course name	Surgery
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра хірургії, травматології, ортопедії та фтизіатрії
Author(s)	Danylenko Ihor Anatoliiiovych, Duzhyi Ihor Dmytrovych
Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Semester	17 weeks across 12 semester
Workload	7 ECTS, 210 hours. For full-time course 100 hours are working hours with the lecturer (100 hours of seminars), 110 hours of the individual study.
Language(s)	English

2. Place in the study programme

Relation to curriculum	Compulsory course available for study programme "Medicine"
Prerequisites	"Step-1", - Necessary knowledge of: Latin and medical terminology, - medical biology, - medical informatics, - human anatomy, - physiology, - anesthesiology and intensive care, -, microbiology, virology and immunology, - pathomorphology, - pathophysiology, - pharmacology, -neurology, - radiology, - general surgery, - surgery, - internal medicine, - gynecology, - infectious diseases, - oncology
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

To achieve by students modern knowledge and professional skills in etiology, pathogenesis, typical clinical manifestations, modern methods of diagnosis, conservative and operative treatment, rehabilitation of patients with generalized surgical purulent infection, planned surgical gastroenterology and proctology, surgical vascular diseases, surgical diseases of endocrine organs that correspond training of a general practitioner.

4. Contents

Module 1. Generalized surgical purulent infection
Topic 1 Purulent surgical infection Purulent surgical infection. Local purulent processes (boil, carbuncle, abscess, subcutaneous phlegmon, panaritium, hydradenitis, mastitis, lymphadenitis) Causes, mechanism of development, clinical manifestations, diagnosis, treatment. Rules and techniques for opening abscesses.
Topic 2 Purulent surgical infection Purulent surgical infection. Inflammatory diseases of the cellular spaces (phlegmons of the hand, neck, subpectoral, inguinal area). Causes, mechanism of development, clinical manifestations, diagnosis, treatment. Rules and techniques for opening abscesses. Wound infection. Antibiotic prophylaxis and antibiotic therapy in surgery: history, principles, indications, contraindications, complications and their treatment.
Topic 3 Generalized surgical purulent infection. Surgical sepsis Generalized surgical purulent infection. Systemic inflammatory response syndrome in surgical patients. Its role in the pathogenesis of inflammatory diseases, clinical signs and their early diagnosis.
Topic 4 Generalized surgical purulent infection. Surgical sepsis Generalized surgical purulent infection. Surgical sepsis: causes, pathogenesis, its significance in relation to the severity of various diseases and injuries. Classification, clinical manifestations, clinical variants, complications. Diagnosis according to modern methods of examination. Intensive care of sepsis, surgical treatment of septic foci
Topic 5 Acute peritonitis. Acute peritonitis. Etiology, pathogenesis, classification. Clinic of local and widespread acute peritonitis. Diagnosis, differential diagnosis. Treatment tactics for acute local and widespread peritonitis. Complications of peritonitis: SPON. Features of preoperative preparation: correction of water-electrolyte disorders and protein metabolism, detoxification. Surgical treatment, method of programmed relaparotomy, rehabilitation and laparostomy. Indications and methods of intubation of the small intestine.
Topic 6 Acute peritonitis Extraperitoneal phlegmon: causes, mechanism of development, clinical manifestations, diagnosis, treatment.
Topic 7 Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology: causes, mechanism of development, clinic, diagnosis, treatment.
Topic 8 Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology: HIV in surgical patients

Module 2. Surgical gastroenterology and proctology

Topic 9 Gallstone disease

Surgical diseases of the gallbladder and extrahepatic bile ducts. Gallstone disease: causes, classification by VT Zaitsev and OO Shalimov. Chronic calculous cholecystitis, choledocholithiasis: causes, pathogenesis, clinical manifestations. Diagnosis, differential diagnosis, Actions of a general practitioner when a patient is diagnosed with gallstone disease. Rehabilitation of patients

Topic 10 Gallstone disease

Gallstone disease: surgical tactics, methods of treatment, technique of surgical interventions. Rehabilitation of patients

Topic 11 Chronic pancreatitis, pancreatic cysts

Chronic pancreatitis: causes, pathogenesis, clinical manifestations, diagnosis, differential diagnosis. Surgical tactics, methods of treatment, technique of surgical interventions. Actions of a general practitioner when a patient is diagnosed with chronic pancreatitis. Rehabilitation of patients

Topic 12 Chronic pancreatitis, cysts of the pancreas

Pancreatic cysts: causes, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment

Topic 13 Diseases of the operated biliary tract

Diseases of the operated biliary tract, causes, classification: choledocholithiasis, stricture of the choledochus. Clinic, diagnosis, treatment. Mechanical jaundice: causes, pathogenesis, clinic. Examination methods, differential diagnosis, surgical tactics, treatment.

Topic 14 Diseases of the operated biliary tract

Diseases of the hepato-pancreato-biliary zone complicated by mechanical jaundice: tumors of the extrahepatic bile ducts (Mirizzi syndrome), tumors of the Vater papilla, tumors and cysts of the pancreas. Clinic, diagnosis, treatment. mechanical jaundice. Methods of surgical interventions and drainage of the biliary tract, their technique. The role of minimally invasive and endoscopic surgical methods in treatment

Topic 15 Diseases of the operated stomach: post-resection and post-vagotomy syndromes.

Chronic diseases of the stomach and duodenum. Features of clinical manifestations, diagnosis and treatment of chronic gastric and duodenal ulcers. Indications and methods of surgical interventions. Postresection syndromes. Causes, pathogenesis, clinic, diagnosis, differential diagnosis and treatment. Actions of the general practitioner at detection at patients of diseases of the operated stomach. Rehabilitation of patients.

Topic 16 Diseases of the operated stomach: post-resection and post-vagotomy syndromes.

Diseases of the operated stomach: postvagotoma syndromes. Causes, pathogenesis, clinic, diagnosis, differential diagnosis and treatment. Actions of the general practitioner at detection at patients of diseases of the operated stomach. Rehabilitation of patients.

<p>Topic 17 Gastric or duodenal ulcer complicated by stenosis, duodenostasis</p> <p>Chronic content promotion disorder on the gastrointestinal tract. Gastric and duodenal ulcer complicated by stenosis: causes, classification, clinic, diagnosis, differential diagnosis. treatment. Actions of the general practitioner at detection at the patient of a pyloroduodenal stenosis. Rehabilitation of patients</p>
<p>Topic 18 Gastric or duodenal ulcer complicated by stenosis, duodenostasis</p> <p>Chronic violation of the promotion of the contents of the gastrointestinal tract. Duodenostasis: causes, classification, clinic, diagnosis, differential diagnosis and treatment. Rehabilitation of patients</p>
<p>Topic 19 Adhesive disease of the peritoneum</p> <p>Adhesive peritoneal disease: causes, pathogenesis, classification, clinic of various forms, diagnosis</p>
<p>Topic 20 Adhesive disease of the peritoneum</p> <p>Adhesive peritoneal disease: conservative and surgical treatment, indications, features and types of surgical interventions. Actions of the general practitioner at detection at the patient of SHO. Rehabilitation of patients</p>
<p>Topic 21 Portal hypertension syndrome</p> <p>Portal hypertension syndrome: causes, pathogenesis, classification. Clinical manifestations. Diagnosis, differential diagnosis. Conservative and surgical treatment Liver transplantation. Actions of a general practitioner in the presence of LNG in a patient. Rehabilitation of patients.</p>
<p>Topic 22 Portal hypertension syndrome</p> <p>Portal hypertension syndrome: complications</p>
<p>Module 3. Surgical diseases of arterial and venous vessels</p>
<p>Topic 23 Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease</p> <p>Chronic ischemia of the lower extremities: Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease. Causes, pathogenesis, classification of chronic ischemia according to the level of occlusion of the aorta and arteries of the extremities. Clinic, diagnosis.</p>
<p>Topic 24 Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease.</p> <p>Chronic ischemia of the lower extremities: Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease .: treatment. Actions of the general practitioner at detection at the patient of chronic arterial ischemia of extremities. Rehabilitation of patients</p>
<p>Topic 25 Diabetic foot syndrome</p> <p>Diabetic foot syndrome: causes, pathogenesis, classification. Clinical manifestations, variants of the clinical course, complications. Diagnosis, differential diagnosis.</p>

<p>Topic 26 Diabetic foot syndrome</p> <p>Diabetic foot syndrome: conservative and surgical treatment of diabetic angiopathy, infected foot in diabetic neuropathy, patients with multifocal atherosclerotic arterial lesions. Actions of the general practitioner at detection at the patient of a syndrome of a diabetic foot. Rehabilitation of patients</p>
<p>Topic 27 Syndrome of acute ischemia of the extremities</p> <p>Acute limb ischemia syndrome. Causes: arterial thrombosis and embolism, limb injury, compartment syndrome. Classification of acute limb ischemia syndrome. Clinic, options for the clinical course.</p>
<p>Topic 28 Syndrome of acute ischemia of the extremities</p> <p>Acute limb ischemia syndrome. Diagnosis, first aid, treatment tactics. Actions of the general practitioner at detection at the patient of an acute arterial ischemia of extremities. Rehabilitation of patients</p>
<p>Topic 29 Aortic arch syndrome</p> <p>Aortic arch syndrome. Aortic aneurysms: classification, clinical manifestations The main arterial branches of the aortic arch, their role in the aortic arch syndrome. clinical manifestations of aortic lesions of different localization, complications.</p>
<p>Topic 30 Aortic arch syndrome</p> <p>Aortic arch syndrome: Modern diagnostic methods, treatment</p>
<p>Topic 31 Varicose veins of the lower extremities</p> <p>Varicose veins of the lower extremities, primary and secondary varicose veins. Causes, pathogenesis, classification, clinic</p>
<p>Topic 32 Varicose veins of the lower extremities</p> <p>Varicose veins of the lower extremities, methods of surgical treatment. Actions of the general practitioner at detection at the patient of a varicose vein. Rehabilitation of patients. Complications.</p>
<p>Topic 33 Thrombosis and thrombophlebitis of superficial and deep main veins of the extremities</p> <p>Thrombosis and thrombophlebitis of superficial veins of the extremities. Causes, pathogenesis, classification, clinic, diagnosis, complications. Conservative and surgical treatment.</p>
<p>Topic 34 Thrombosis and thrombophlebitis of superficial and deep main veins of the extremities</p> <p>Thrombosis and thrombophlebitis of the deep main veins of the extremities. Causes, pathogenesis, classification, clinic, diagnosis, complications. Conservative and surgical treatment. syndrome of the superior and inferior vena cava</p>
<p>Topic 35 Pulmonary artery thromboembolism</p> <p>Pulmonary artery thromboembolism. Causes, clinic, diagnosis</p>

Topic 36 Pulmonary artery thromboembolism

Pulmonary artery thromboembolism. Differential diagnosis. Modern possibilities of conservative and surgical treatment. Actions of a general practitioner in the presence of a patient with pulmonary embolism. Rehabilitation of patients

Topic 37 Postrombophlebitic syndrome

Postrombophlebitic syndrome. Etiopathogenesis, classification. Clinic. Diagnosis, differential diagnosis. Conservative and methods of surgical treatment.

Topic 38 Postrombophlebitic syndrome.

Postrombophlebitic syndrome. Trophic ulcer: causes, pathogenesis, clinic, methods of treatment. Lymphedema of the extremities. Causes, pathogenesis, classification, clinic. Diagnosis, conservative and surgical treatment methods

Topic 39 Abdominal ischemic syndrome

Acute occlusions of mesenteric vessels. Causes, pathogenesis, pathomorphology, clinic, diagnosis, differential diagnosis. Methods of treatment. Actions of a general practitioner in the presence of an AIS patient. Short small bowel syndrome. Rehabilitation of patients.

Topic 40 Abdominal ischemic syndrome

Chronic occlusions of mesenteric vessels. Causes, pathogenesis, pathomorphology, clinic, diagnosis, differential diagnosis. Complication. Methods of treatment. Actions of a general practitioner in the presence of AIS in a patient. Rehabilitation of patients.

Module 4. Surgical diseases of endocrine organs

Topic 41 Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Thyroiditis. Thyroid cancer
Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Classification of thyroid diseases. Endemic and sporadic, euthyroid and thyrotoxic goiter. Causes, pathogenesis, clinic. Special methods of examination of patients. Differential diagnosis.

Topic 42 Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Thyroiditis. Thyroid cancer
Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Modern methods of conservative and surgical treatment of diseases. Preoperative preparation. Methods of surgical interventions. Complication. Thyrotoxic crisis. Clinic, treatment, prevention. Thyroiditis. Thyroid cancer. Causes, pathogenesis, clinic. Special methods of examination of patients. Differential diagnosis. Modern methods of conservative and surgical treatment of diseases. Preoperative preparation. Methods of surgical interventions.

Topic 43 Diseases of the parathyroid glands and adrenal glands.

Diseases of the parathyroid glands and adrenal glands. Hypoparathyroidism, ulcerogenic endocrine diseases (primary hyperparathyroidism, Solinger-Ellison syndrome), pathogenesis, clinical features, diagnosis and treatment.

Topic 44 Diseases of the parathyroid glands and adrenal glands.

Diseases of the parathyroid glands and adrenal glands. Adrenal diseases: Itsenko-Cushing's syndrome, pheochromocytoma, Addison's disease, pathogenesis, clinical features, diagnosis and treatment. Diseases of the pancreas: insulinoma, pathogenesis, clinical features, diagnosis and treatment.

Module 5. Fundamentals of Transplantology	
Topic 45	Socio-legal aspects of transplantation. Fundamentals of transplant immunology Fundamentals of transplant immunology. Methods of donor selection, storage of donor organs and their transportation.
Topic 46	Socio-legal aspects of transplantation. Fundamentals of transplant immunology Socio-legal aspects of transplantology. Indication and contraindications to transplantation of the heart, lungs, liver, pancreas, kidneys.
Topic 47	Curation of patients. Curation of patients, record of the letter of curation. Practice of practical skills on extras and patients.
Topic 48	Curation of patients. Record a letter of curation. Preparation for the final modular control.
Topic 49	Performance of practical skills and manipulations Performance of practical skills and manipulations
Topic 50	Final modular control Final modular control - assessment of Theory, interview with the student

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Collect medical information about the patient and analyze clinical data of patients with surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO2	Determine the necessary list of laboratory and instrumental studies of patients with surgical infection, pathology of the organs of the abdominal cavity, vessels and endocrine organs
LO3	Establish the leading clinical symptoms of patients with surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO4	Establish the main clinical syndrome of patients with surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO5	Establish the final diagnosis of the disease of patients with surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO6	Determine the necessary mode of work, rest and the nature of nutrition in the treatment of diseases of patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO7	Determine the necessary mode of work, rest and the nature of nutrition in the treatment of diseases of patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs

LO8	Determine the principles and nature of treatment of diseases, perform medical manipulations and operations of patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO9	Determine the principles and nature of treatment of diseases, perform medical manipulations and operations of patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO10	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO11	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO12	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO13	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO14	Assess the impact of the environment, socio-economic and biological determinants on the state of health of the individual, family, patient population in case of surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO15	Carry out an examination of the working capacity of patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO16	Maintain medical documentation, including electronic forms of patients with surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO17	Carry out sanitary and hygienic and preventive measures for patients with surgical infection, pathology of the organs of the abdominal cavity, blood vessels and endocrine organs
LO18	Solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account the aspects of social and ethical responsibility of patients in case of surgical infection, pathology of abdominal organs, blood vessels and endocrine organs
LO19	Integrate knowledge and solve complex health care problems in broad or multidisciplinary contexts in surgical infection, pathology of abdominal organs, vessels and endocrine organs

6. Role of the course in the achievement of programme learning outcomes

Programme learning outcomes achieved by the course.

For 222 Medicine:

PO1	To detect and identify the leading clinical symptoms and syndromes (according to the List 1); to establish the most probable nosological or syndromic preliminary clinical diagnosis of diseases (according to the List 2) using standard methods, preliminary data of the patient's anamnesis, patient's examination data, and knowledge about a human, his organs and systems.
PO2	To collect information about the patient's general condition; to assess the patient's psychomotor and physical development and the state of organs and systems of the body; to assess information on the diagnosis (according to the List 4) based on laboratory and instrumental findings.
PO3	To order and analyze additional (mandatory and optional) examinations (laboratory, radiological, functional and/or instrumental) (according to the List 4) in order to perform a differential diagnosis of diseases (according to the List 2).
PO4	To establish a final clinical diagnosis at a medical institution under control of a supervising doctor by means of informed decision and logical analysis of the obtained subjective and objective data of clinical and additional examinations, and differential diagnosis, following the relevant ethical and legal norms (according to the List 2).
PO5	To detect the key clinical syndrome or the reason for patient's condition severity (according to the List 3) via informed decision and evaluation of the person's state under any circumstances (at home, in the street, at a healthcare facility), including under emergency and military operation conditions, in the field, with a lack of information and limited time.
PO6	To determine the nature and treatment principles (conservative, operative) in patients with diseases (according to the List 2) at a healthcare facility, at patient's home or during medical evacuation process (including in the field), based on the provisional clinical diagnosis and observing the relevant ethical and legal norms, by making a reasonable decision according to existing algorithms and standard procedures based on the principles of evidence-based medicine; if needed to go beyond the standard scheme, to substantiate the personalized recommendations under control of a supervising doctor at a medical facility.
PO7	To determine an appropriate work and rest mode in the treatment of diseases (according to the List 2) at a healthcare institution, at patient's home and during medical evacuation (including in the field), based on the provisional clinical diagnosis and observing the relevant ethical and legal norms, by making a reasonable decision according to existing algorithms and standard procedures.
PO8	To determine an appropriate diet in the treatment of diseases (according to the List 2) at a healthcare institution, at patient's home and during medical evacuation (including in the field), based on the provisional clinical diagnosis and observing the relevant ethical and legal norms, by making a reasonable decision according to existing algorithms and standard procedures.
PO11	To determine the appropriate approach in emergency medical care case under any circumstances, adhering to the relevant ethical and legal norms, by making an informed decision based on the main clinical syndrome (disease severity) and emergency diagnosis (according to the List 3) using standard schemes under limited time conditions based on the principles of evidence-based medicine.

PO12	To provide emergency medical assistance under any circumstances, adhering to the relevant ethical and legal norms, by making an informed decision based on the main clinical syndrome (disease severity) and emergency diagnosis (according to the List 3) using standard schemes and predetermined approach under limited time conditions based on the principles of evidence-based medicine.
PO13	To organize medical evacuation procedures among the population and the military under emergency and military operation conditions (including in the field), and during the phases of medical evacuation, given the existing system of medical evacuation provision.
PO14	To perform medical procedures (according to the List 5) at a medical facility, at home or at work on the basis of a provisional clinical diagnosis and/or health parameters through making an informed decision and adhering to the relevant ethical and legal norms.
PO15	To perform procedures related to emergency medical assistance within a limited time and under any circumstances, using standard schemes on the basis of a medical emergency diagnosis (according to the List 3).
PO16	To plan and implement a system of sanitary and preventive measures against the occurrence and spread of diseases among the population.
PO18	To search for the necessary information in the professional literature and databases; to analyze, evaluate, and apply this information. To apply modern digital technologies, specialized software, statistical methods of data analysis to solve complex health problems.
PO19	To assess environmental impact on public health.
PO21	To organize an appropriate level of individual safety (own and of those cared for) in case of typical dangerous situations in the individual field of activity.

7. Soft Skills

SS1	Ability to abstract thinking, analysis and synthesis.
SS2	Ability to learn, master modern knowledge and apply it in practical situations
SS3	Knowledge and understanding of the subject area and understanding of professional activity
SS4	Ability to adapt and act in a new situation.
SS5	Ability to make informed decisions
SS6	Ability to use information and communication technologies
SS7	Ability to work in a team

8. Teaching and learning activities

Topic 1. Purulent surgical infection

pr.tr.1 "Purulent surgical infection" (full-time course)

Purulent surgical infection. Local purulent processes (boil, carbuncle, abscess, subcutaneous phlegmon, panaritium, hydradenitis, mastitis, lymphadenitis) Causes, mechanism of development, clinical manifestations, diagnosis, treatment. Rules and techniques for opening abscesses. The study of this topic involves theoretical work in the classroom, the use of virtual simulation with subsequent discussion. In addition, the study of this system provides role-playing games in the preparation of a treatment plan for the underlying disease and the provision of emergency care. In the simulation center - the imposition of secondary seams

Topic 2. Purulent surgical infection

pr.tr.2 "Purulent surgical infection" (full-time course)

Purulent surgical infection. Inflammatory diseases of the cellular spaces (phlegmons of the hand, neck, subpectoral, inguinal area). Causes, mechanism of development, clinical manifestations, diagnosis, treatment. Rules and techniques for opening abscesses. Wound infection. Antibiotic prophylaxis and antibiotic therapy in surgery: history, principles, indications, contraindications, complications and their treatment. The study of this topic involves theoretical work in the classroom, solving situational problems, the use of virtual simulation (watching movies on the methods of instrumental and functional methods of examination) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 3. Generalized surgical purulent infection. Surgical sepsis

pr.tr.3 "Generalized surgical purulent infection. Surgical sepsis" (full-time course)

Generalized surgical purulent infection. Systemic inflammatory response syndrome in surgical patients. Its role in the pathogenesis of inflammatory diseases, clinical signs and their early diagnosis. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the skills of palpation, percussion and auscultation at work at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound, radiography and treatment.

Topic 4. Generalized surgical purulent infection. Surgical sepsis

pr.tr.4 "Generalized surgical purulent infection. Surgical sepsis" (full-time course)

Generalized surgical purulent infection. Surgical sepsis: causes, pathogenesis, its significance in relation to the severity of various diseases and injuries. Classification, clinical manifestations, variants of clinical course, complications. Diagnosis according to modern methods of examination. Intensive care of sepsis, surgical treatment of septic foci. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the skills of palpation, percussion and auscultation at work at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound, radiography and treatment.

Topic 5. Acute peritonitis.

pr.tr.5 "Acute peritonitis." (full-time course)

Acute peritonitis. Etiology, pathogenesis, classification. Clinic of local and widespread acute peritonitis. Diagnosis, differential diagnosis. The use of virtual simulation (watching movies on the methods of determining the clinical symptoms of acute peritonitis) with further discussion. treatment tactics for acute local and widespread peritonitis. Complications of peritonitis: SPON. Features of preoperative preparation: correction of water-electrolyte disorders and protein metabolism, detoxification. Surgical treatment, method of programmed relaparotomy, rehabilitation and laparostomy. Indications and methods of intubation of the small intestine. In addition, the study of this topic includes role-playing games, improving the skills of palpation, percussion and auscultation when working at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound and radiography. Work in the simulation center (mastering the techniques of open, semi-open and closed postoperative management of patients with peritonitis, mastering the techniques of laparostomy and suturing the middle laparotomy wound

Topic 6. Acute peritonitis

pr.tr.6 "Acute peritonitis" (full-time course)

Acute peritonitis. Extraperitoneal phlegmon: causes, mechanism of development, clinical manifestations, diagnosis, treatment. The use of virtual simulation (watching movies on the methods of determining the clinical symptoms of acute peritonitis) with further discussion. In addition, the study of this topic includes role-playing games, improving mastery of palpation, percussion and auscultation when working at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound and radiography. Work in the simulation center (mastering the techniques of open, semi-open and closed postoperative management of patients with peritonitis, mastering the techniques of laparostomy and suturing the middle laparotomy wound

Topic 7. Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology

pr.tr.7 "Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology" (full-time course)

Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology: causes, mechanism of development, clinic, diagnosis, treatment. Study of this topic involves theoretical work in the classroom, solving situational problems, work in the simulation center (work with scales of peritoneal severity, performing laparocentesis and laparoscopy on models), the use of virtual simulation (watching movies on the methods of instrumental and functional survey methods)) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 8. Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology

pr.tr.8 "Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology" (full-time course)

Syndrome of "false" acute abdomen. Surgical complications in patients with infectious pathology. HIV in surgical patients. The study of this topic involves theoretical work in the classroom, solving situational problems, work in the simulation center (work with scales of peritoneal severity, performing laparocentesis and laparoscopy on models), the use of virtual simulation (watching movies on instrumental techniques). and functional survey methods) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 9. Gallstone disease

pr.tr.9 "Gallstone disease" (full-time course)

Surgical diseases of the gallbladder and extrahepatic bile ducts. Gallstone disease: causes, classification by VT Zaitsev and OO Shalimov. Chronic calculous cholecystitis, choledocholithiasis: causes, pathogenesis, clinical manifestations, Application of virtual simulation (viewing films on methods of determining clinical symptoms of housing and communal services) with further discussion, work in a simulation center (testing methods of laparoscopic cholecystectomy) instrumental and functional methods of examination) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 10. Gallstone disease

pr.tr.10 "Gallstone disease" (full-time course)

Surgical diseases of the gallbladder and extrahepatic bile ducts. Gallstone disease: surgical tactics, methods of treatment, technique of surgical interventions. Clinic, peculiarity of the clinical course in the elderly and with concomitant pathology. Application of virtual simulation (viewing of films on methods of determining clinical symptoms of housing and communal services) with further discussion, work in the simulation center (testing of laparoscopic cholecystectomy), application of virtual simulation (viewing of films on methods of instrumental and functional examination methods) followed by discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 11. Chronic pancreatitis, pancreatic cysts

pr.tr.11 "Chronic pancreatitis, cysts of the pancreas" (full-time course)

Chronic pancreatitis: etiology, pathogenesis, clinical manifestations, diagnosis, differential diagnosis. Treatment. Actions of a general practitioner when a patient is diagnosed with chronic pancreatitis. Rehabilitation of patients. When studying this topic, the use of virtual simulation (watching movies on the methods of determining the clinical symptoms of acute pancreatitis) with further discussion. Also involves theoretical work in the classroom, in the absence of quarantine restrictions, work at the patient's bedside.

Topic 12. Chronic pancreatitis, cysts of the pancreas

pr.tr.12 "Chronic pancreatitis, cysts of the pancreas" (full-time course)

Cysts of the pancreas: causes, pathogenesis, clinical manifestations, diagnosis, differential diagnosis, treatment, surgical tactics, methods of treatment, surgical techniques. When studying this topic, the use of virtual simulation (watching movies on the methods of determining the clinical symptoms of acute pancreatitis) with further discussion. Also involves theoretical work in the classroom, in the absence of quarantine restrictions, work at the patient's bedside.

Topic 13. Diseases of the operated biliary tract

pr.tr.13 "Diseases of the operated biliary tract" (full-time course)

Diseases of the operated biliary tract, causes, classification: choledocholithiasis, stricture of the choledochus. Clinic, diagnosis, treatment. Mechanical jaundice: causes, pathogenesis, clinic. Examination methods, differential diagnosis, surgical tactics, treatment. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of functional and instrumental study of the biliary system (cholangiography, ultrasound, CT) with further discussion. cooperation between the medical institution and the university), drawing up a treatment plan for the underlying disease

Topic 14. Diseases of the operated biliary tract

pr.tr.14 "Diseases of the operated biliary tract" (full-time course)

Diseases of the hepato-pancreato-biliary zone complicated by mechanical jaundice: tumors of the extrahepatic bile ducts (Mirizzi syndrome), tumors of the Vater papilla, tumors and cysts of the pancreas. Clinic, diagnosis. tumors of the extrahepatic bile ducts (Mirizzi syndrome), tumors of the Vater papilla, tumors and cysts of the pancreas. Treatment. Methods of surgical interventions and drainage of the biliary tract, their technique. The role of minimally invasive and endoscopic surgical methods in the treatment of mechanical jaundice. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of functional and instrumental study of the biliary system (cholangiography, ultrasound, CT) with further discussion. cooperation between the medical institution and the university), drawing up a treatment plan for the underlying disease

Topic 15. Diseases of the operated stomach: post-resection and post-vagotomy syndromes.

pr.tr.15 "Diseases of the operated stomach: post-resection and post-vagotomy syndromes." (full-time course)

Chronic diseases of the stomach and duodenum. Features of clinical manifestations, diagnosis and treatment of chronic gastric and duodenal ulcers. Indications and methods of surgical interventions. Postresection syndromes. Causes, pathogenesis, clinic, diagnosis, differential diagnosis and treatment. Actions of the general practitioner at detection at patients of diseases of the operated stomach. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (conducting on a mannequin EGDIS, gastric sounding), the use of virtual simulation (watching movies on methods of instrumental and functional methods of examination) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 16. Diseases of the operated stomach: post-resection and post-vagotomy syndromes.

pr.tr.16 "Diseases of the operated stomach: post-resection and post-vagotomy syndromes."
(full-time course)

Diseases of the operated stomach: postvagotoma syndromes. Causes, pathogenesis, clinic, diagnosis, differential diagnosis and treatment. Actions of the general practitioner at detection at patients of diseases of the operated stomach. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (conducting on a mannequin EGDIS, gastric probing), the use of virtual simulation (watching movies on methods of instrumental and functional methods of examination) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 17. Gastric or duodenal ulcer complicated by stenosis, duodenostasis

pr.tr.17 "Gastric or duodenal ulcer complicated by stenosis, duodenostasis" (full-time course)

Chronic content promotion disorder on the gastrointestinal tract. Gastric and duodenal ulcer complicated by stenosis: causes, classification, clinic, diagnosis, treatment. Actions of the general practitioner at detection at the patient of a pyloroduodenal stenosis. Rehabilitation of patients . In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 18. Gastric or duodenal ulcer complicated by stenosis, duodenostasis

pr.tr.18 "Gastric or duodenal ulcer complicated by stenosis, duodenostasis" (full-time course)

Chronic violation of the promotion of the contents of the gastrointestinal tract. Duodenostasis: causes, classification, clinic, diagnosis, differential diagnosis and treatment. Rehabilitation of patients The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the skills of palpation, percussion and auscultation at work at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound, radiography and treatment.

Topic 19. Adhesive disease of the peritoneum

pr.tr.19 "Adhesive disease of the peritoneum" (full-time course)

Adhesive peritoneal disease: causes, pathogenesis, classification, clinic of various forms, diagnosis. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the skills of palpation, percussion and auscultation at work at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound, radiography and treatment.

Topic 20. Adhesive disease of the peritoneum

pr.tr.20 "Adhesive disease of the peritoneum" (full-time course)

Adhesive peritoneal disease: conservative and surgical treatment, indications, features and types of surgical interventions. Actions of the general practitioner at detection at the patient of SHO. Rehabilitation of patients The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the skills of palpation, percussion and auscultation at work at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a survey plan with further interpretation of ultrasound, radiography and treatment.

Topic 21. Portal hypertension syndrome

pr.tr.21 "Portal hypertension syndrome" (full-time course)

Portal hypertension syndrome: causes, pathogenesis, classification. Clinical manifestations. Diagnosis, differential diagnosis. Conservative and surgical treatment Liver transplantation. Actions of a general practitioner in the presence of LNG in a patient. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with endoscopic hemostasis) with further discussion. In addition, the study of this system provides role-playing games in the preparation of a treatment plan for the underlying disease and the provision of emergency care. In the simulation center - the use of the Blackmore probe for bleeding from the esophagus

Topic 22. Portal hypertension syndrome

pr.tr.22 "Portal hypertension syndrome" (full-time course)

Portal hypertension syndrome: Complications. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with endoscopic hemostasis), followed by discussion. In addition, the study of this system provides role-playing games in the preparation of a treatment plan for the underlying disease and the provision of emergency care. In the simulation center - the use of Blackmore's probe for bleeding from the esophagus

Topic 23. Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease

pr.tr.23 "Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease" (full-time course)

Chronic ischemia of the lower extremities: Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease. Causes, pathogenesis, classification of chronic ischemia according to the level of occlusion of the aorta and arteries of the extremities. Clinic, diagnostics. Application of virtual simulation (viewing of films on methods of determining clinical symptoms of chronic ischemia and diagnostic tests, methods of shunting, balloon angioplasty) with further discussion

Topic 24. Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease.

pr.tr.24 "Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease." (full-time course)

Chronic ischemia of the lower extremities: Obliterating atherosclerosis, obliterating endarteritis, Raynaud's disease, Takayasu's disease. Treatment. Actions of the general practitioner at detection at the patient of chronic arterial ischemia of extremities. Rehabilitation of patients. application of virtual simulation (viewing of films on methods of determining clinical symptoms of chronic ischemia and diagnostic tests, methods of shunting, balloon angioplasty) with further discussion.

Topic 25. Diabetic foot syndrome

pr.tr.25 "Diabetic foot syndrome" (full-time course)

Diabetic foot syndrome: causes, pathogenesis, classification. Clinic, diagnostics. The study of this topic involves theoretical work in the classroom. In addition, the study of this topic provides role-playing games, in the absence of quarantine restrictions, work at the patient's bedside in the relevant departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). Drawing up a treatment plan for the patient.

Topic 26. Diabetic foot syndrome

pr.tr.26 "Diabetic foot syndrome" (full-time course)

Diabetic foot syndrome: conservative and surgical treatment of diabetic angiopathy, infected foot in diabetic neuropathy, patients with multifocal atherosclerotic arterial lesions. Actions of the general practitioner at detection at the patient of a syndrome of a diabetic foot. Rehabilitation of patients The study of this topic involves theoretical work in the classroom. In addition, the study of this topic provides role-playing games, in the absence of quarantine restrictions, work at the patient's bedside in the relevant departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). Drawing up a treatment plan for the patient.

Topic 27. Syndrome of acute ischemia of the extremities

pr.tr.27 "Syndrome of acute ischemia of the extremities" (full-time course)

Acute limb ischemia syndrome. Causes: arterial thrombosis and embolism, limb injury, compartment syndrome. Classification of acute limb ischemia syndrome. Clinic, options for the clinical course. The study of this topic involves theoretical work in the classroom, solving situational problems, work in the simulation center (viewing angiograms), the use of virtual simulation (watching movies on the methods of Doppler, rheovasography) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 28. Syndrome of acute ischemia of the extremities

pr.tr.28 "Syndrome of acute ischemia of the extremities" (full-time course)

Acute limb ischemia syndrome. Diagnosis, first aid, treatment tactics. Actions of the general practitioner at detection at the patient of an acute arterial ischemia of extremities. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, solving situational problems, work in the simulation center (viewing angiograms), the use of virtual simulation (watching movies on the methods of Doppler, rheovasography) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 29. Aortic arch syndrome

pr.tr.29 "Aortic arch syndrome" (full-time course)

Aortic arch syndrome. Aortic aneurysms: classification. Clinic, diagnostics. The main arterial branches of the aortic arch, their role in aortic arch syndrome. The use of virtual simulation (watching movies on the methods of determining the clinical symptoms of chronic ischemia, methods of correction) with further discussion. In the simulation center of angiogram research

Topic 30. Aortic arch syndrome

pr.tr.30 "Aortic arch syndrome" (full-time course)

Aortic arch syndrome. Therapeutic tactics. Actions of a general practitioner in the presence of a patient with an aortic aneurysm. Rehabilitation of patients. application of virtual simulation (watching movies on methods for determining clinical symptoms of chronic ischemia, methods of correction) with further discussion. In the simulation center of angiogram research

Topic 31. Varicose veins of the lower extremities

pr.tr.31 "Varicose veins of the lower extremities" (full-time course)

Chronic venous insufficiency syndrome. Varicose veins of the lower extremities, primary and secondary varicose veins. Causes, pathogenesis, classification. Clinic, diagnostics. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. Work at the patient's bedside in the specialized department (in the absence of quarantine restrictions), drawing up a plan of examination with further interpretation of the results of ultrasound and treatment. In the simulation center of working out of techniques of elastic compression of hypodermic veins

Topic 32. Varicose veins of the lower extremities

pr.tr.32 "Varicose veins of the lower extremities" (full-time course)

Chronic venous insufficiency syndrome. Varicose veins of the lower extremities: clinic, diagnosis. Methods of surgical treatment. Actions of the general practitioner at detection at the patient of a varicose vein. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. Work at the patient's bedside in the specialized department (in the absence of quarantine restrictions), drawing up a plan of examination with further interpretation of the results of ultrasound and treatment. In the simulation center of working out of techniques of elastic compression of hypodermic veins

Topic 33. Thrombosis and thrombophlebitis of superficial and deep main veins of the extremities

pr.tr.33 "Thrombosis and thrombophlebitis of superficial and deep main veins of the extremities" (full-time course)

Thrombosis and thrombophlebitis of superficial veins of the extremities. Causes, pathogenesis, classification, clinic, diagnosis, complications. Conservative and surgical treatment. The study of this topic involves theoretical work in the classroom, solving situational problems, the use of virtual simulation (watching movies on the methods of instrumental methods of examination, methods of removing subcutaneous veins, thrombectomy) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). In the simulation center of working out of techniques of elastic compression of hypodermic veins

Topic 34. Thrombosis and thrombophlebitis of superficial and deep main veins of the extremities

pr.tr.34 "Thrombosis and thrombophlebitis of superficial and deep main veins of the extremities" (full-time course)

Thrombosis and thrombophlebitis of the deep main veins of the extremities. Causes, pathogenesis, classification, clinic, diagnosis, complications. Conservative and surgical treatment. Syndrome of the superior and inferior vena cava. The study of this topic involves theoretical work in the classroom, solving situational problems, the use of virtual simulation (watching movies on the methods of instrumental methods of examination, methods of removing subcutaneous veins, thrombectomy) with further discussion. In the absence of quarantine restrictions, work in the departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). In the simulation center of working out of techniques of elastic compression of hypodermic veins

Topic 35. Pulmonary artery thromboembolism

pr.tr.35 "Pulmonary artery thromboembolism" (full-time course)

Thromboembolism pulmonary artery. Causes, clinic, diagnosis, differential diagnosis. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. Role play. In the simulation center of working out of techniques of elastic compression of hypodermic veins

Topic 36. Pulmonary artery thromboembolism

pr.tr.36 "Pulmonary artery thromboembolism" (full-time course)

Pulmonary artery thromboembolism. Differential diagnosis. Modern possibilities of conservative and surgical treatment. Actions of a general practitioner in the presence of a patient with pulmonary embolism. Rehabilitation of patients The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. Role play. In the simulation center of working out of techniques of elastic compression of hypodermic veins

Topic 37. Postrombophlebitic syndrome

pr.tr.37 "Postrombophlebitic syndrome" (full-time course)

Postrombophlebitic syndrome. Etiopathogenesis, classification. Clinic. Diagnosis, differential diagnosis. Conservative and methods of surgical treatment. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies on methods of correction of complications) with further discussion. In addition, the study of this topic involves work at the patient's bedside in the relevant departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). Interpretation of the results of laboratory and instrumental methods of examination, preparation of a treatment plan

Topic 38. Postrombophlebitic syndrome.

pr.tr.38 "Postrombophlebitic syndrome." (full-time course)

Postrombophlebitic syndrome. Trophic ulcer: causes, pathogenesis, clinic, methods of treatment. Lymphedema of the extremities. Causes, pathogenesis, classification, clinic. Diagnosis, conservative and methods of surgical treatment The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies on methods of correction of complications) with further discussion. In addition, the study of this topic involves work at the patient's bedside in the relevant departments of the medical institution (according to the agreement on cooperation between the medical institution and the university). Interpretation of the results of laboratory and instrumental methods of examination, preparation of a treatment plan

Topic 39. Abdominal ischemic syndrome

pr.tr.39 "Abdominal ischemic syndrome" (full-time course)

Acute occlusions of mesenteric vessels. Causes, pathogenesis, pathomorphology, clinic, diagnosis, differential diagnosis. Complication. Methods of treatment. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. Complaint of the examination and treatment plan.

Topic 40. Abdominal ischemic syndrome

pr.tr.40 "Abdominal ischemic syndrome" (full-time course)

Chronic occlusions of mesenteric vessels. Causes, pathogenesis, pathomorphology, clinic, diagnosis, differential diagnosis. Complication. Methods of treatment. Actions of a general practitioner in the presence of AIS in a patient. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. Drawing up a plan of examination and treatment

Topic 41. Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Thyroiditis. Thyroid cancer

pr.tr.41 "Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Thyroiditis. Thyroid cancer" (full-time course)

Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Classification of thyroid diseases. Endemic and sporadic, euthyroid and thyrotoxic goiter. Causes, pathogenesis, clinic. Special methods of examination of patients. Differential diagnosis. Modern methods of conservative and surgical treatment of diseases. Preoperative preparation. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the mastery of palpation skills, working at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a plan of examination and treatment taking into account complications

Topic 42. Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Thyroiditis. Thyroid cancer

pr.tr.42 "Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Thyroiditis. Thyroid cancer" (full-time course)

Thyroid hypertrophy syndrome. Thyrotoxicosis syndrome. Modern methods of conservative and surgical treatment of diseases. Preoperative preparation. Methods of surgical interventions. Complication. Thyrotoxic crisis. Clinic, treatment, prevention. Thyroiditis. Thyroid cancer. Causes, pathogenesis, clinic. Special methods of examination of patients. Differential diagnosis. Modern methods of conservative and surgical treatment of diseases. Preoperative preparation. Methods of surgical interventions. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the mastery of palpation skills, working at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a plan of examination and treatment taking into account complications

Topic 43. Diseases of the parathyroid glands and adrenal glands.

pr.tr.43 "Diseases of the parathyroid glands and adrenal glands." (full-time course)

Diseases of the parathyroid glands and adrenal glands. Hypoparathyroidism, ulcerogenic endocrine diseases (primary hyperparathyroidism, Solinger-Ellison syndrome), pathogenesis, clinical features, diagnosis and treatment. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the acquisition of palpation skills, working at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a plan of examination and treatment taking into account complications

Topic 44. Diseases of the parathyroid glands and adrenal glands.

pr.tr.44 "Diseases of the parathyroid glands and adrenal glands." (full-time course)

Parathyroid diseases glands and adrenal glands. syndrome Adrenal diseases: Itsenko-Cushing's syndrome, pheochromocytoma, Addison's disease, pathogenesis, clinical features, diagnosis and treatment. Diseases of the pancreas: insulinoma, pathogenesis, clinical features, diagnosis and treatment. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies demonstrating the clinical manifestations of major diseases and syndromes) with further discussion. In addition, the study of this topic includes role-playing games, improving the mastery of palpation skills, working at the patient's bedside in the profile department (in the absence of quarantine restrictions), drawing up a plan of examination and treatment taking into account complications

Topic 45. Socio-legal aspects of transplantation. Fundamentals of transplant immunology

pr.tr.45 "Socio-legal aspects of transplantation. Fundamentals of transplant immunology" (full-time course)

Fundamentals of transplant immunology. Methods of donor selection, storage of donor organs and their transportation. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with a demonstration of organ transplants) with further discussion.

Topic 46. Socio-legal aspects of transplantation. Fundamentals of transplant immunology

pr.tr.46 "Socio-legal aspects of transplantation. Fundamentals of transplant immunology" (full-time course)

Socio-legal aspects of transplantology. Indication and contraindications to transplantation of the heart, lungs, liver, pancreas, kidneys. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with a demonstration of organ transplants) with further discussion.

Topic 47. Curation of patients.

pr.tr.47 "Curation of patients." (full-time course)

Curation of patients. Practice of practical skills on extras and patients. Educational history of the disease, based on the clinical supervision of patients with the preparation of survey data and additional research methods, in order to establish and justify the diagnosis and appointment of the treatment regimen.

Topic 48. Curation of patients.

pr.tr.48 "Curation of patients." (full-time course)

Preparation for the final modular control. Educational history of the disease, based on the clinical supervision of patients with the preparation of survey data and additional research methods, in order to establish and justify the diagnosis and appointment of the treatment regimen.

Topic 49. Performance of practical skills and manipulations

pr.tr.49 "Final modular control" (full-time course)

Final module control - written test

Topic 50. Final modular control
pr.tr.50 "Final modular control" (full-time course) Final modular control - assessment of practical skills, interview with the student

9. Teaching methods

9.1 Teaching methods

Course involves learning through:

TM1	Electronic learning
TM2	Case-based learning (CBL). Learning based on the analysis of a clinical case, situation
TM3	Team-based learning (TBL). Team-oriented training
TM4	Research-based learning (RBL). Learning through research
TM5	Practical training
TM6	Self-study

The discipline is taught using modern teaching methods (CBL, TBL,RBL), which not only promote the development of professional skills, but also stimulate creative and scientific activities and are aimed at training practice-oriented professionals. Practical classes allow students to plan a scheme of examination of the patient and interpret the results of research, diagnose and provide emergency care in emergencies. Test tasks allow you to test your knowledge and focus on key issues. Execution of situational tasks will allow to analyze tactics of inspection of patients, to make the plan of treatment, to form risk groups. Practicing practical skills allows you to establish the level of knowledge and focus on key issues. Self-study will help to prepare for practical classes, as well as work in small groups to prepare presentations that will be presented to other groups

GC 1. Ability to abstract thinking, analysis, and synthesis. GC 2. Ability to learn, master modern knowledge, and apply the Knowledge in practice. GC 3. Knowledge and understanding of the subject area and professional activity comprehension. GC 4. Ability to adapt and act in a new situation. GC 5. Ability to make reasoned decisions; teamwork ability; interpersonal skills. GC 6. Ability to communicate in a foreign language. GC 7. Ability to use information and communication technologies. GC 8. Determination and persistence on the tasks and commitments undertaken.

9.2 Learning activities

LA1	Solving situational problems
LA2	Writing and defending a medical history
LA3	Watching educational films
LA4	Individual research project (student research work, article, theses, etc.)
LA5	Analysis of clinical cases
LA6	Preparation for practical classes
LA7	E-learning in systems (Google Meet, Zoom and YouTube channel format)

LA8	Interpretation of laboratory (clinical analysis of blood, urine, biochemical analysis of blood, immunological tests, etc.) and instrumental (ECG, echocardiography, EFGDS, ultrasound, CT, radiography, spirometry, etc.) methods of examination
LA9	Practice of practical skills in the simulation center

10. Methods and criteria for assessment

10.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$140 \leq RD < 169$
Fair but with significant shortcomings	3 (Satisfactory)	$120 \leq RD < 139$
Fail – some more work required before the credit can be awarded	2 (Fail)	$0 \leq RD < 119$

10.2 Formative assessment

	Description	Deadline, weeks	Feedback
FA1 Peer assessment	Partnership interaction aimed at improving the results of educational activities by comparing one's own current level of success with previous indicators. Provides an opportunity to analyze one's own educational activities	During the entire period of studying the discipline	Adjustment of approaches to learning together with students, taking into account the results of the assessment
FA2 Counseling of the teacher during the writing of the medical history	Writing a medical history involves demonstrating the ability to work with a patient, consolidating the practical skills of physical examination of a patient, evaluating and analyzing medical documentation, establishing a clinical diagnosis with elements of differential diagnosis, prescribing treatment.	Writing during the cycle, defense - in accordance with the calendar and thematic plan	Counseling of the teacher during the writing of the medical history with oral comments. The applicant receives a grade for writing a medical history (5 points maximum) and defense (5 points maximum)

<p>FA3 Consulting the teacher during the preparation of an individual research project (speech at a conference, competition of scientific works)</p>	<p>An important factor in the formation of professional qualities of future specialists is the research work of students. Involvement of the latter in research activities contributes to the formation of their scientific worldview, industriousness, work capacity, initiative, etc.</p>	<p>During the entire period of studying the discipline</p>	<p>Teacher's oral comments. The student is given additional incentive points (from 5 to 10), depending on the type of research project</p>
<p>FA4 Instructions of the teacher in the process of performing practical tasks</p>	<p>The guidelines reveal the methods of pedagogical control over the professional activities of applicants. Efficiency is determined by compliance with all stages of practical tasks. The effectiveness of the formation of the necessary practical skills and abilities depends on the level of formation of practical competence.</p>	<p>During the entire period of studying the discipline</p>	<p>Counseling of students in working with a standardized patient, direct and indirect observation of the work of applicants "at the patient's bedside" with further determination of the level of practical training</p>
<p>FA5 Survey and teacher's oral comments based on his results</p>	<p>It provides an opportunity to identify the state of educational experience acquired by students in accordance with the set goals, to find out the prerequisites for the state of formation of the obtained results, the causes of difficulties, to adjust the learning process, to track the dynamics of the formation of learning results and to forecast their development.</p>	<p>During the entire period of studying the discipline</p>	<p>According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants</p>

<p>FA6 Solving clinical cases</p>	<p>The case method makes it possible to reveal and form the qualities and abilities of medical students necessary for further work, forms clinical thinking, analytical abilities, independence in decision-making, communication, skills for working with a sufficiently large amount of information.</p>	<p>During the entire period of studying the discipline</p>	<p>Assessment of the student's ability to think clinically, justify their decisions, clearly express their opinions, determine the level of theoretical training, which is reflected in the corresponding assessment</p>
<p>FA7 The task of assessing the level of theoretical training</p>	<p>Assessment of acquired theoretical knowledge on the subject of the discipline. It is conducted at each practical session in accordance with the specific goals of each topic based on a comprehensive assessment of the student's activity, which includes monitoring the level of theoretical training, performing independent work according to the thematic plan</p>	<p>During the entire period of studying the discipline</p>	<p>Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge</p>
<p>FA8 Practical skills test</p>	<p>Working out the interpretation of the results of additional research methods</p>	<p>During the entire period of study.</p>	<p>According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants</p>

FA9 Tests (automated tests) to control the educational achievements of applicants	A method of effective verification of the level of assimilation of knowledge, abilities and skills from each subject of an educational discipline. Testing allows you to check the assimilation of educational material from each subject.	During the entire period of studying the discipline	the student must provide 60% of the correct answers, which is an admission to the practical part of the lesson
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10.3 Summative assessment

	Description	Deadline, weeks	Feedback
SA1 Final control: differentiated assessment	Passing a practical-oriented exam. Candidates who have successfully mastered the material of the discipline, passed practical skills and final computer testing, and defended their medical history are allowed to take the differentiated assessment	Last class	The applicant can get 80 points for the differentiated assessment. The minimum number of points a student must receive is 48 points
SA2 Assessment of medical history writing and defense	Writing a medical history involves demonstrating the ability to work with a patient, consolidating the practical skills of physical examination of a patient, evaluating and analyzing medical documentation, establishing a clinical diagnosis with elements of differential diagnosis, prescribing treatment.	47 and 48 class	A student can get a maximum of 10 points. 5 points are awarded for writing, 5 points for defense. The minimum number of points for a successful defense is 6 points
SA3 Tasks for evaluating the level of theoretical training	Solving test tasks that include questions for controlling the level of theoretical training, performing independent work according to the thematic plan of the content module	The last practical lesson of the substantive module	The student must provide 60% of the correct answers
SA4 Current evaluation of the level of theoretical and practical training	includes oral interview, interpretation of laboratory and instrumental methods of examination, objective structured clinical examination of the patient, solution of clinical individual and group case studies	During the entire period of studying the discipline	It is held at every lesson

SA5 Final testing	Testing allows you to check the results of training during the cycle and determine the level of knowledge at the end of the discipline.	Final computer testing at the end of the course	It is an admission to take the exam
SA6 Assessment of performance of practical skills and manipulations	Comprehensive practice of the practical component of academic programs in a safe simulation environment for students.	At the last discipline lesson, the student must successfully complete a list of practical skills	It is an admission to take the differentiated assessment

Form of assessment:

	Points	Minimum points	Можливість перескладання з метою підвищення оцінки
12 semester	200 scores		
SA1. Final control: differentiated assessment	80		
Answers to theoretical questions	80	48	No
SA2. Assessment of medical history writing and defense	10		
Answers to questions about the causes and provoking factors of the disease, modern methods of diagnosis and treatment	10	6	No
SA3. Tasks for evaluating the level of theoretical training	20		
Test questions for monitoring the level of theoretical training, performing independent work according to the thematic plan of the content module	20	12	No
SA4. Current evaluation of the level of theoretical and practical training	60		
Oral interview, interpretation of laboratory and instrumental methods of examination, objective structured clinical examination of the patient, solution of clinical individual and group cases, current testing	60	36	No
SA5. Final testing	10		
Computer testing according to the subject of the discipline	10	6	No
SA6. Assessment of performance of practical skills and manipulations	20		

Demonstration of patient examination skills, interpretation of additional examination data, performing manipulations	20	12	No
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When mastering the materials of the discipline, the applicant is awarded a maximum of 5 points for each practical session (the grade is given in the traditional 4-point grading system). At the end of the academic year, the student's arithmetic average is calculated. The maximum number of points that the applicant can receive in practical classes during the academic year is 60. The number of points of the applicant is calculated according to the formula: multiply 60 by the arithmetic average and divide by 5. The following points are assigned for writing a medical history: "5" - 5 points, "4" - 4 points, "3" - 3 points, "2" - 0 points. Medical history protection: "5" - 5 points, "4" - 4 points, "3" - 3 points, "2" - 0 points. In general, the applicant can receive a maximum of 10 points for the medical history, the minimum required point is 6. For diagnostic testing, the student receives a maximum of 10 points. The minimum number of points that the winner must receive is 6 points. A mandatory condition for admission to the exam is the successful completion of the list of practical skills in the last lesson of the discipline. The maximum number of points that the winner can receive is 20 points, the minimum is 12 points. The maximum number of points for the applicant's current educational activity is 120. The applicant is admitted to the exam provided that he meets the requirements of the educational program and if he has scored at least 72 points for the current educational activity. The practice-oriented exam is held according to the schedule during the session. Examination tickets contain 2 theoretical questions on various topics and cover all sections of the academic discipline (15 points each), 1 clinical problem (20 points), 5 questions on the definition of clinical symptoms (5 points each) and interpretation of radiographs (5 points). The exam is credited to the candidate if he scored at least 48 points out of 80. Incentive points are added to the grade in the discipline for the implementation of an individual research project (defense of a student thesis 10 points, speech at a conference, poster presentation at a conference, theses of reports - 5 points). The total score for the discipline cannot exceed 200 points.

11. Learning resources


11.1 Material and technical support

MTS1	Library funds, archive of radiographs, spiograms, electrocardiograms, computer tomograms, results of laboratory methods of inspection
MTS2	Information and communication systems
MTS3	Computers, computer systems and networks
MTS4	Simulation center
MTS5	Multimedia, video and sound reproduction, projection equipment (video cameras, projectors, screens, smart boards, etc.)
MTS6	Software (to support distance learning, online surveys, virtual laboratories, virtual patients, to create computer graphics, modeling, etc.)
MTS7	"Clinical Hospital №5"
MTS8	Medical equipment (apparatus Ultrasound diagnostics, electrocardiograph, fibrogastroduodenoscope, tonometer, phonendoscope, laparoscope, etc.)

11.2 Information and methodical support

Essential Reading	
1	Дужий, І.Д. Гострий грудний біль (диференціальна діагностика) [Текст]: монографія / І.Д. Дужий. - Суми: СумДУ, 2019. - 304 с.
2	Essentials of visceral surgery. For residents and fellows / F. Billmann, T. Keck –Springer Berlin, Heidelberg – 2023.- 371 p.
3	Infections in surgery. Prevention and management / M. Sartelli, R. Coimbra, L. Pagani, K. Rasa - Springer Nature Switzerland AG 2021.- 2021.- 278 p.
4	Хірургія : підручник / Я. С. Березницький, О. В. Білов, Л. С. Білянський та ін.] ; за ред. Я. С. Березницького. – Вінниця : Нова Книга, 2020. – 528 с.
5	Хірургія : підручник / Я. С. Березницький, О. В. Білов, Л. С. Білянський та ін.] ; за ред. Я. С. Березницького. – Вінниця : Нова Книга, 2020. – 528 с.
Supplemental Reading	
1	Emergency general surgery. A practical approach / C. V. R. Brown, K. Inaba, M. J. Martin, A. Salim - Springer International Publishing AG, part of Springer Nature 2019.- 2019.- 531 p.
2	Emergency vascular surgery /E. Wahlberg, J. Goldstone.-Springer-Verlag GmbH Germany - 2d ed.- 2017.-216 p.
3	Evidence-Based Endocrine Surgery / R. Parameswaran, A. Agarwal – Springer Singapore 2018.- 1st ed.- 2018.- 484 p.
4	The ASCRS Textbook of Colon and Rectal Surgery [Електронний ресурс] / edited by Scott R. Steele, Tracy L. Hull, Thomas E. Read, Theodore J. Saclarides, Anthony J. Senagore, Charles B. Whitlow. — 3rd ed. 2016. — Cham : Springer International Publishin
5	Кононенко, М.Г. Перитоніт [Текст]: матеріали до лекції для студ. і лікарів (хірургів, анестезіологів та ін.) спец. 222 "Медицина" денної форми навчання / М.Г. Кононенко. - Суми: СумДУ, 2017. - 116 с.
6	Методичні вказівки до практичних занять із теми "Грижі живота" з курсу "Хірургія" [Електронний ресурс] : для студ. спец. 222 "Медицина" денної форми навчання / Лукавенко І.М. —Суми :СумДУ, 2020. — 48 с.
7	Vascular surgery. Cases, questions and commentaries /G. Geroulakos, B. Sumpio - Springer Cham.- 4th ed.- 2018.- 696 p.
Web-based and electronic resources	
1	http://www.mayo.edu/research (Клініка Мейо, США).
2	http://videlectures.net/Top/Medicine/ (Колекція високоякісних медичних відеолекцій світу).
3	Особливості діагностики хвороб плеври [Електронний ресурс] : монографія: 2-ге вид., доп. / І. Д. Дужий. — Суми : СумДУ, 2021. — 716 с.
4	https://surgical-school.com.ua/index.php/journal - періодичний журнал «Харківська хірургічна школа»

5	http://surgukraine.com.ua/ - періодичний журнал «Хірургія України»
6	https://hirurgiya.com.ua/index.php/journal - періодичний журнал «Клінічна хірургія»
7	https://ojs.tdmu.edu.ua/index.php/surgery - періодичний журнал «Шпитальна хірургія»
8	http://www.nbuv.gov.ua/ - Національна бібліотека України імені В. І. Вернадського
9	https://essuir.sumdu.edu.ua/ - Electronic Sumy State University Institutional Repository

	<p style="text-align: center;">UNIVERSITY POLICIES FOR THE COURSE «Surgery»</p> <p>Higher education level The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle Major: Educational programme 222 Medicine: Medicine Year of study 2023 Semester 12 semester Mode of study full-time course Language of instruction English</p>
Teacher(s)	Danylenko Ihor Anatoliiovych, Duzhyi Ihor Dmytrovych
Contact	Danylenko Ihor Anatoliiovych i.danilenko@med.sumdu.edu.ua Duzhyi Ihor Dmytrovich i.duzhyi@med.sumdu.edu.ua
Time and room for giving consultations	Practices and consultations are held every Wednesday from 14-00 to 16-00 according to the schedule on the basis of the department ("Sumy Clinical Hospital №5").
Links to online educational platforms	https://elearning.sumdu.edu.ua/free_content/lectured:fffb74b06d285f6dbad33f6c602f2c7ad62799cd/20210929085008//index.html https://elearning.sumdu.edu.ua/free_content/lectured:cf6f0a09ab4ba4701da457ca73d22d11cf007541/20150301082805//91414/index.html
Syllabus	https://pg.cabinet.sumdu.edu.ua/report/syllabus/d7e9774063caaa10083ecef849f41d33755221
Channels for maintaining contact with the group for receiving and working on materials	personal account, MIX SSU, group in Viber

POLICIES

Academic integrity policy

Participants must complete all tasks according to the course requirements independently. Participants are not allowed to cheat during the written module or summative test. The assignments should not contain plagiarism, facts of fabrication, falsification, cheating. Manifestations of other types of academic dishonesty determined by the Academic Integrity policy are also unacceptable. If a teacher reveals violations of academic integrity by students during the course, the former have the right to take one of the following actions: - to reduce points by up to 40% for practical assignments; - to give recommendations for improving and resubmitting mandatory homework assignments with the reduction of points by up to 25%; - to not accept mandatory homework assignments without the right to resubmit; - set a date for retaking the written module or the summative test with a reduction of points by up to 15%; - to not allow to retake the written module or the summative test.

Політика щодо використання інструментів штучного інтелекту при виконанні завдань навчальної дисципліни

Політика використання інструментів штучного інтелекту (ChatGPT, Tome тощо) оголошується викладачем на початку курсу.

It is forbidden to use artificial intelligence tools for the preparation of works defined by the syllabus and

regulations of the academic discipline.

Несанкціоноване використання інструментів штучного інтелекту є порушенням академічної доброчесності.

Політика щодо використання матеріалів з джерел відкритого доступу

When students use materials from open access sources for the preparation of works defined by the syllabus and regulations of the academic discipline, they must comply with the terms of the Creative Commons licenses for the use of copyright objects.

Attendance policy

The student must attend all practical classes and at least 60% of lectures. Students who have completed all missed practical classes and 60% of lectures by the deadline are admitted to the final module control. Lectures are conducted by writing an abstract on the topic of the missed lecture (handwritten version, not less than 10 pages) and defending the abstract to the teacher who gave the lecture, or the head of the department.

Deadlines and course retake policy

In case of unsatisfactory result, the student has the right to retake the semester exam twice - the first time to the examiner appointed by the head of the department, the second - to the commission created by the dean's office. The re-examination is carried out according to a separate schedule, which is approved by the dean's office. Students who fail the exam without good reason are considered to have received an unsatisfactory grade. The student's refusal to perform the examination task is certified as an unsatisfactory answer. The student has the right to receive an explanation of the grade obtained.

Assessment appeals policy

The results of the module and semester assessment are subject to appeal. A student must lodge an appeal to the director/dean on the day of certification or after announcing the results, but no later than the next working day. The appeal commission is established by the director/dean's order. The appeal commission's decision may change the grade in case of violations revealed during the attestation.

Assessment criteria

Assessment policy

When mastering the materials of the discipline, the applicant is awarded a maximum of 5 points for each practical session (the grade is given in the traditional 4-point grading system). At the end of the academic year, the student's arithmetic average is calculated. The maximum number of points that the applicant can receive in practical classes during the academic year is 60. The number of points of the applicant is calculated according to the formula: multiply 60 by the arithmetic average and divide by 5. The following points are assigned for writing a medical history: "5" - 5 points, "4" - 4 points, "3" - 3 points, "2" - 0 points. Medical history protection: "5" - 5 points, "4" - 4 points, "3" - 3 points, "2" - 0 points. In general, the applicant can receive a maximum of 10 points for the medical history, the minimum required point is 6. For diagnostic testing, the student receives a maximum of 10 points. The minimum number of points that the winner must receive is 6 points. A mandatory condition for admission to the exam is the successful completion of the list of practical skills in the last lesson of the discipline. The maximum number of points that the winner can receive is 20 points, the minimum is 12 points. The maximum number of points for the applicant's current educational activity is 120. The applicant is admitted to the exam provided that he meets the requirements of the educational program and if he has scored at least 72 points for the current educational activity. The practice-oriented exam is held according to the schedule during the session. Examination tickets contain 2 theoretical questions on various topics and cover all sections of the academic discipline (15 points each), 1 clinical problem (20 points), 5 questions on the definition of clinical symptoms (5 points each) and interpretation of radiographs (5 points). The exam is credited to the candidate if he scored at least 48 points out of 80. Incentive points are added to the grade in the d

Alignment of learning outcomes with teaching and learning activities and assessment

For 222 Medicine:

Competences/ learning outcomes	Learning outcomes	Types of training	Learning activities	Teaching methods	Material and technical support	Methods and criteria for assessment
PO2	LO1	pr.tr.1-pr.tr.50	LA2, LA8, LA3, LA6	TM5, TM6	MTS1, MTS2, MTS4, MTS5, MTS6, MTS7	SA2
PO3	LO2	pr.tr.1-pr.tr.50	LA1, LA5, LA4, LA2, LA8	TM2, TM4, TM5	MTS1, MTS2, MTS5, MTS6, MTS7, MTS8	SA1, SA3, SA4, SA2
PO1	LO3	pr.tr.1-pr.tr.50	LA1, LA5, LA9, LA2, LA8	TM2, TM3, TM5	MTS2, MTS6, MTS7	SA1, SA3, SA4, SA6, SA2
PO5	LO4	pr.tr.1-pr.tr.50	LA1, LA5, LA9, LA2, LA8	TM2, TM3, TM5	MTS2, MTS4, MTS6, MTS7	SA1, SA3, SA4, SA6, SA2
PO4	LO5	pr.tr.1-pr.tr.50	LA1, LA5, LA9, LA2, LA8, LA3, LA6	TM2, TM3, TM5, TM6	MTS1, MTS2, MTS3	SA1, SA3, SA4, SA6, SA2
PO7	LO6	pr.tr.1-pr.tr.50	LA2, LA8, LA3, LA6	TM5, TM6	MTS3, MTS4, MTS7	SA2
PO8	LO7	pr.tr.1-pr.tr.50	LA1, LA5, LA9, LA2, LA8	TM2, TM3, TM5	MTS4, MTS5, MTS6, MTS7, MTS8	SA1, SA3, SA4, SA6, SA2
PO6	LO8	pr.tr.1-pr.tr.50	LA7, LA1, LA5, LA4, LA3, LA6	TM1, TM2, TM4, TM6	MTS2, MTS7	SA5, SA1, SA3, SA4
PO14	LO9	pr.tr.1-pr.tr.50	LA7, LA9, LA3, LA6	TM1, TM3, TM6	MTS2, MTS3, MTS7	SA5, SA6
PO11	LO10	pr.tr.1-pr.tr.50	LA7, LA1, LA5, LA9, LA3, LA6	TM1, TM2, TM3, TM6	MTS4, MTS5, MTS6, MTS7	SA5, SA1, SA3, SA4, SA6

Competences/ learning outcomes	Learning outcomes	Types of training	Learning activities	Teaching methods	Material and technical support	Methods and criteria for assessment
PO13	LO11	pr.tr.1-pr.tr.50	LA1, LA5, LA2, LA8	TM2, TM5	MTS1, MTS2, MTS6, MTS8	SA1, SA3, SA4, SA2
PO15	LO12	pr.tr.1-pr.tr.50	LA7, LA9, LA4	TM1, TM3, TM4	MTS4, MTS5, MTS7, MTS8	SA5, SA6
PO21	LO13	pr.tr.1-pr.tr.50	LA7, LA2, LA8, LA3, LA6	TM1, TM5, TM6	MTS1, MTS2, MTS7, MTS8	SA5, SA2
PO19	LO14	pr.tr.1-pr.tr.50	LA2, LA8, LA3, LA6	TM5, TM6	MTS2, MTS3	SA2
PO6	LO15	pr.tr.1-pr.tr.50	LA1, LA5, LA2, LA8	TM2, TM5	MTS2, MTS3, MTS7	SA1, SA3, SA4, SA2
PO18	LO16	pr.tr.1-pr.tr.50	LA9, LA2, LA8	TM3, TM5	MTS2, MTS3	SA6, SA2
PO16	LO17	pr.tr.1-pr.tr.50	LA1, LA5, LA2, LA8	TM2, TM5	MTS5, MTS7	SA1, SA3, SA4, SA2
PO12	LO18	pr.tr.1-pr.tr.50	LA1, LA5, LA3, LA6	TM2, TM6	MTS2, MTS4, MTS7	SA1, SA3, SA4
PO11	LO19	pr.tr.1-pr.tr.50	LA7, LA2, LA8, LA3, LA6	TM1, TM5, TM6	MTS2, MTS3	SA5, SA2