

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 HHMI

Chairman of the Quality Council HHMI
Petrashenko Viktoriia Oleksandrivna

DATA ON APPROVAL

Author

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Considered and approved at the meeting of the work group of Study programme Медицина	Head of the work group (Head of the Study programme) Prystupa Liudmyla Nykodymivna
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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 Anatoliiovych
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
Duration	one semester
Workload	4 ECTS, 120 hours. For full-time course 90 hours are working hours with the lecturer (18 hours of lectures, 72 hours of seminars), 30 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	"Krok-1" , necessary knowledge of: life safety, basics of bioethics and life protection, first aid, hygiene and ecology pathomorphology, pathophysiology, pharmacology, general surgery, propaedeutics of internal medicine, propaedeutics of pediatrics, radiology, patient care, nursing practice
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 surgical pathology of the organs of the thoracic cavity, mammary gland, patients with trauma of the thoracic and abdominal organs due to combat trauma, which correspond to training of a general practitioner.

4. Contents

Module 1. Surgical diseases of the chest and thoracic organs

<p>Topic 1 Control of the residual level of knowledge from III - IV courses.</p> <p>Modern methods of diagnosis and treatment of diseases of the respiratory and cardiovascular systems. Clinical manifestations of respiratory and cardiovascular insufficiency as a basis for diagnosis and differential diagnosis. Actions of a general practitioner for chest pain</p>
<p>Topic 2 Subcutaneous and mediastinal emphysema</p> <p>Subcutaneous and mediastinal emphysema .: causes, clinic, diagnosis, treatment. Actions of the general practitioner at suspicion of a pneumothorax, rehabilitation</p>
<p>Topic 3 Post-traumatic and spontaneous pneumothorax</p> <p>Post-traumatic and spontaneous pneumothorax: causes and mechanism of pneumothorax development depending on the species, classification. Clinical manifestations, diagnosis and differential diagnosis and principles of formation of preliminary diagnosis, treatment tactics</p>
<p>Topic 4 Hemothorax, chylothorax</p> <p>Hemothorax, chylothorax. Causes, pathogenesis, classification, clinical manifestations, diagnosis, differential diagnosis. First aid, surgical tactics and methods of surgical treatment. Rehabilitation of patients.</p>
<p>Topic 5 Pleurisy. Acute pleural empyema, pyopneumothorax</p> <p>Pleurisy. Acute pleural empyema, pyopneumothorax. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis. Methods of conservative and surgical treatment, their technique.</p>
<p>Topic 6 Chronic pleural empyema</p> <p>Chronic pleural empyema. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis. Methods of surgical treatment, their technique. Rehabilitation of patients.</p>
<p>Topic 7 Purulent lung diseases: abscess and lung gangrene.</p> <p>Purulent lung diseases: abscess and lung gangrene. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis</p>
<p>Topic 8 Lung abscess and gangrene: treatment</p> <p>Purulent lung diseases. Lung abscess and gangrene: treatment.</p>
<p>Topic 9 Mediastinitis</p> <p>Mediastinitis: causes, mechanism of development, classification, clinical manifestations, diagnosis and treatment. Rehabilitation of patients</p>
<p>Topic 10 Bronchiectasis</p> <p>Bronchiectasis: Causes, pathogenesis, pathomorphological changes, clinical signs, diagnosis, treatment</p>
<p>Topic 11 Benign tumors of the bronchi and lungs, lung cancer</p> <p>Benign tumors of the bronchi and lungs, lung cancer: causes, types, clinical signs, diagnosis, differential diagnosis and treatment. Examination of working capacity and rehabilitation of patients.</p>

Topic 12 Pulmonary hemorrhage

Pulmonary hemorrhage: sources and causes, clinical manifestations, diagnosis, differential diagnosis, first aid and treatment.

Topic 13 Achalasia and chaliasia of the cardia, strictures and diverticula of the esophagus

Dysphagia syndrome. Achalasia and chaliasia of the cardia, strictures and diverticula of the esophagus: causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis of treatment.

Topic 14 Benign and malignant tumors of the esophagus

Benign and malignant tumors of the esophagus: causes, pathogenesis, clinic, diagnosis and differential diagnosis, treatment, prognosis. Examination of working capacity and rehabilitation of patients.

Topic 15 Gastroesophageal reflux disease, hernia of the esophageal orifice of the diaphragm. Diaphragm relaxation

Syndrome of gastroesophageal reflux and heartburn. Gastroesophageal reflux disease, hernia of the esophageal orifice of the diaphragm, paraesophageal hernia (Barrett's esophagus): causes, pathogenesis, mechanism of development, classification, clinical diagnosis, differential diagnosis and treatment. Rehabilitation of patients. Diaphragm relaxation: causes, mechanism of development, classification, clinic, treatment. Rehabilitation of patients

Topic 16 Non-inflammatory diseases of the mediastinum

Non-inflammatory diseases of the mediastinum. Tumors and cysts of the mediastium: types, classification, causes, clinical manifestations, diagnosis, differential diagnosis and treatment. Rehabilitation of patients.

Topic 17 Congenital heart defects

Congenital heart defects. Causes, classification, hemodynamics, clinic. Actions of a general practitioner in case of suspected heart disease. Modern diagnostic methods and differential diagnosis, treatment. Complication. Artificial blood circulation. Methods of operative interventions for heart defects and their complications.

Topic 18 Acquired heart defects

Acquired heart defects. Causes, classification, hemodynamics, clinic. Actions of a general practitioner if a heart defect is suspected. Modern diagnostic methods and differential diagnosis, treatment. Complication. Artificial blood circulation. Methods of surgical interventions for heart defects and their complications.

Topic 19 Ischemic heart disease

Coronary heart disease. Myocardial infarction, cardiac aneurysm, conduction and rhythm disorders: causes, pathogenesis, clinic, diagnosis. Actions of the general practitioner at suspicion at the patient of a myocardial infarction and a heart aneurysm.

Topic 20 Ischemic heart disease. Treatment

invasive treatment of acute myocardial infarction and its complications (thrombolysis, angioplasty, counterpulsation, pacing). Surgical treatment of ventricular aneurysms and postinfarction heart defects, surgical correction of bradycardia, paroxysmal tachycardia and heart fibrillation. Methods of surgical interventions.

Module 2. Developmental abnormalities and diseases of the breast and breast

Topic 21 Benign and malignant tumors of the breast and breast.

Benign and malignant tumors of the breast and breast. Causes, classification, clinic, diagnosis, differential diagnosis, treatment. Indications and contraindications to surgery. Actions of a general practitioner in the presence of a patient with a tumor of the breast and breast.

Topic 22 Dyshormonal diseases of the breast and breast

Dyshormonal diseases of the breast and breast. Causes, classification, clinic, diagnosis, differential diagnosis, treatment. Indications and contraindications to surgery. Actions of a general practitioner in the presence of a patient with a tumor of the breast and breast.

Topic 23 Malformations of the breast and breast. Mastitis

Malformations of the breast and breast (amastia, polymastia, polythelia, atelia): causes, mechanism of development, clinical manifestations, diagnosis, principles of treatment. Inflammatory diseases of the mammary glands. Mastitis: causes, classification, clinic, diagnosis and differential diagnosis, treatment, prevention.

Module 3. Injury of abdominal and thoracic organs, combat trauma

Topic 24 Abdominal injury without damage to internal organs

Abdominal injury without damage to internal organs. Classification, mechanism and clinical manifestations of abdominal wall injuries. Diagnosis and formation of a preliminary diagnosis. Therapeutic tactics, actions of a general practitioner for abdominal trauma.

Topic 25 Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to parenchymal organs

Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to parenchymal organs. Classification, mechanism and clinical manifestations of injuries, abdominal organs and extraperitoneal space. Diagnosis and formation of a preliminary diagnosis. Therapeutic tactics, actions of a general practitioner for abdominal trauma.

Topic 26 Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to the hollow organs and rectum

Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to the hollow organs and rectum. Classification, mechanism and clinical manifestations of the abdominal organs and extraperitoneal space. Diagnosis and formation of a preliminary diagnosis. Therapeutic tactics, actions of a general practitioner for abdominal trauma.

Topic 27 Fractures of the ribs and sternum

Closed and open trauma of the chest and thoracic cavity. Classification. Fractures of the ribs and sternum, the mechanism of injury, clinical manifestations, diagnostic program. Actions of the general practitioner at a chest injury. Therapeutic tactics.

<p>Topic 28 Closed and open trauma to the chest and thoracic cavity. Damage to the lungs</p> <p>Closed and open trauma of the chest and thoracic cavity. Classification. Damage to the lungs. Mechanism of injury, clinical manifestations, diagnostic program. Actions of the general practitioner at a chest injury. Therapeutic tactics.</p>
<p>Topic 29 Closed and open trauma of the chest and thoracic cavity. Damage to the mediasitial organs</p> <p>Closed and open trauma of the chest and thoracic cavity. Classification. Damage to the interstitial organs (injuries of the heart, pericardium, main vessels, trachea and bronchi). Mechanism of injury, clinical manifestations, diagnostic program. Actions of the general practitioner at a chest injury. Therapeutic tactics.</p>
<p>Topic 30 Polytrauma.</p> <p>Multiple trauma (polytrauma). Mechanism of injury, classification, severity characteristics. Shock and collapse in patients with polytrauma, acute respiratory distress syndrome in adults, multiorgan failure syndrome: causes, pathogenesis. Features of clinical manifestations of polytrauma depending on the combination of injuries, diagnostic program, first aid at the prehospital stage, transport immobilization.</p>
<p>Topic 31 Treatment of patients with polytrauma</p> <p>Multiple trauma (polytrauma). Treatment tactics. Preoperative preparation and postoperative intensive therapy.</p>
<p>Topic 32 Gunshot wound. Gunshot wounds to the abdomen, chest</p> <p>Gunshot wound. Gunshot wounds to the abdomen, chest. The mechanism of injury, wound characteristics, clinical manifestations, bleeding and blood loss, the algorithm of pre-medical and first aid to victims. Diagnostic program, principles of treatment</p>
<p>Topic 33 Gunshot wound. Gunshot wounds to the pelvis and extremities.</p> <p>Gunshot wound. Gunshot woundspelvis and limbs. The mechanism of injury, wound characteristics, clinical manifestations, bleeding and blood loss, the algorithm of pre-medical and first aid to victims. Diagnostic program, principles of treatment.</p>
<p>Topic 34 Mining and explosion trauma</p> <p>Explosive trauma of the abdomen, chest, pelvis and limbs. The mechanism of injury, wound characteristics, clinical manifestations, bleeding and blood loss, the algorithm of pre-medical and first aid to victims. Evacuation of injured with a mine blast. Diagnostic program, principles of treatment.</p>
<p>Topic 35 Performance of practical skills and manipulations</p> <p>Performance of practical skills and manipulations</p>
<p>Topic 36 Curation of patients</p> <p>Curation of patients and writing of academic history of illness. Protection of medical history.</p>

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 for surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma to the chest and abdominal cavity due to combat trauma
LO2	Determine the necessary list of laboratory and instrumental examinations of patients for acute surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma to the chest and abdominal cavity due to combat trauma and evaluate their results
LO3	To establish the leading clinical symptoms of patients with acute surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma to the chest and abdominal cavity due to combat trauma
LO4	To establish the main clinical syndrome of the disease of patients with surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma of the chest and abdominal cavity as a result of combat trauma
LO5	To establish the final diagnosis of the disease of patients with acute surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma of the chest and abdominal cavity due to combat trauma
LO6	Determine the necessary regime of work, rest and the nature of nutrition in the treatment of diseases of patients with surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma to the chest and abdominal cavity due to combat trauma
LO7	Determine the necessary regime of work, rest and the nature of nutrition in the treatment of diseases of patients with surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma to the chest and abdominal cavity due to combat trauma
LO8	Determine the principles and nature of treatment of diseases, perform medical manipulations and operations of patients for surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma of the chest and abdominal cavity as a result of combat trauma
LO9	Determine the principles and nature of treatment of diseases, perform medical manipulations and operations of patients for surgical pathology of the organs of the chest cavity, mammary gland, patients with trauma of the chest and abdominal cavity as a result of combat trauma
LO10	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical pathology of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs due to combat trauma
LO11	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical pathology of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs due to combat trauma
LO12	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical pathology of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs due to combat trauma

LO13	Diagnose emergency conditions, determine the tactics of providing emergency medical care, carry out treatment and evacuation measures for patients with surgical pathology of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs due to combat trauma
LO14	o assess the influence of the environment, socio-economic and biological determinants on the health of the individual, family, patient population on surgical pathology of the organs of the thoracic cavity, mammary gland, patients with trauma of the thoracic and abdominal organs due to combat trauma
LO15	To carry out an examination of the working capacity of patients for surgical pathology of the organs of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs due to combat trauma
LO16	Maintain medical documentation, including electronic forms of patients for surgical pathology of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs due to combat trauma
LO17	Carry out sanitary-hygienic and preventive measures for patients with surgical pathology of the organs of the thoracic cavity, mammary gland, patients with trauma to the thoracic and abdominal organs caused by combat trauma
LO18	Solve the problems of medicine 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 for surgical pathology of the organs of the thoracic cavity, mammary gland, patients with trauma of the thoracic and abdominal organs due to combat trauma
LO19	Integrate knowledge and solve complex health problems in broad or multidisciplinary contexts

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 patients anamnesis, patients examination data, and knowledge about a human, his organs and systems.
PO2	To collect information about the patients general condition; to assess the patients 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 patients condition severity (according to the List 3) via informed decision and evaluation of the persons 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 patients 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 patients 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 patients 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 reasoned decisions; teamwork ability; interpersonal skills.
SS6	Ability to use information and communication technologies
SS7	Determination and persistence on the tasks and commitments undertaken.

8. Teaching and learning activities

Topic 1. Control of the residual level of knowledge from III - IV courses.
pr.tr.1 ""Control of the residual level of knowledge from III - IV courses."" (full-time course) Modern methods of diagnosis and treatment of diseases of the respiratory and cardiovascular systems. Clinical manifestations of respiratory and cardiovascular insufficiency as a basis for diagnosis and differential diagnosis. Actions of a general practitioner for chest pain. The study of this topic involves theoretical work in the classroom, in the absence of quarantine restrictions, work at the patient's bedside. Using virtual simulation (watching movies) with further discussion.
Topic 2. Subcutaneous and mediastinal emphysema
pr.tr.2 "Subcutaneous and mediastinal emphysema" (full-time course) Subcutaneous and mediastinal emphysema .: causes, clinic, diagnosis, treatment. Actions of the general practitioner at suspicion of a pneumothorax, rehabilitation. The study of this topic includes role-playing games, improving the mastery of palpation, percussion and auscultation skills 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 3. Post-traumatic and spontaneous pneumothorax

pr.tr.3 "Post-traumatic and spontaneous pneumothorax" (full-time course)

Post-traumatic and spontaneous pneumothorax: causes and mechanism of pneumothorax development depending on the species, classification. Clinical manifestations, diagnosis and differential diagnosis and principles of preliminary diagnosis, treatment tactics. The study of this topic involves theoretical work in the classroom, solving situational problems. Work in the simulation center (assembly of active ampoule drainage, thoracentesis). application of virtual simulation (watching films 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 4. Hemothorax, chylothorax

lect.1 ". Pneumothorax, hemothorax, chylothorax." (full-time course)

. Pneumothorax, hemothorax, chylothorax. Causes and mechanism of development depending on the species, classification. Clinical manifestations, diagnosis and differential diagnosis and principles of preliminary diagnosis, treatment tactics.

pr.tr.4 "Hemothorax, chylothorax" (full-time course)

Hemothorax, chylothorax. Causes, pathogenesis, classification, clinical manifestations, diagnosis, differential diagnosis. First aid, surgical tactics and methods of surgical treatment. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, solving situational problems. Work in the simulation center (assembly of active ampoule drainage, thoracentesis). application of virtual simulation (watching films 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 5. Pleurisy. Acute pleural empyema, pyopneumothorax

pr.tr.5 "Pleurisy. Acute pleural empyema, pyopneumothorax" (full-time course)

Pleurisy. Acute pleural empyema, pyopneumothorax. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis. Methods of conservative and surgical treatment, their technique. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of access to the pleural cavity, methods of drainage of the pleural cavity), in the simulation center to practice the technique of thoracoscopy

Topic 6. Chronic pleural empyema

pr.tr.6 "Chronic pleural empyema" (full-time course)

Chronic pleural empyema. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis. Methods of surgical treatment, their technique. Rehabilitation of patients. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies on methods of thoracoplasty, decortication) 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 7. Purulent lung diseases: abscess and lung gangrene.

lect.2 "Purulent-inflammatory diseases of the lungs and pleura. Mediastinitis" (full-time course)
Purulent-inflammatory diseases of the lungs and pleura. Mediastinitis. Causes and mechanism of development depending on the species, classification. Clinical manifestations, diagnosis and differential diagnosis and principles of preliminary diagnosis, treatment tactics.

pr.tr.7 "Purulent lung diseases: abscess and lung gangrene." (full-time course)
Purulent lung diseases: abscess and lung gangrene. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis. 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. View radiographs. 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. Lung abscess and gangrene: treatment

pr.tr.8 "Purulent diseases of the lungs: abscess and gangrene of the lungs: treatment" (full-time course)
Purulent diseases of the lungs: abscess and gangrene of the lungs: treatment Studying this topic involves theoretical work in the classroom. In addition, when studying this topic, role-playing games are expected, in the absence of quarantine restrictions, work at the patient's bedside in specialized 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 9. Mediastinitis

pr.tr.9 "Mediastinitis" (full-time course)
Mediastinitis: causes, mechanism of development, classification, clinical manifestations, 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, watching movies on the technique of mediastinal drainage) with further discussion.

Topic 10. Bronchiectasis

pr.tr.10 "Bronchiectasis" (full-time course)
Bronchiectasis: Causes, pathogenesis, pathomorphological changes, clinical signs, diagnosis, 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 11. Benign tumors of the bronchi and lungs, lung cancer

pr.tr.11 "Benign tumors of the bronchi and lungs, lung cancer" (full-time course)

Benign tumors of the bronchi and lungs, lung cancer: causes, types, clinical signs, diagnosis, differential diagnosis and treatment. Examination of working capacity and rehabilitation of patients. 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 CT results and radiography.

Topic 12. Pulmonary hemorrhage

pr.tr.12 "Pulmonary hemorrhage" (full-time course)

Pulmonary hemorrhage: sources and causes, clinical manifestations, diagnosis, differential diagnosis, first aid and treatment. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (intubation of the trachea and bronchi), 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 13. Achalasia and chaliasia of the cardia, strictures and diverticula of the esophagus

lect.3 "Syndrome of gastroesophageal reflux, heartburn and dysphagia: achalasia and chalazion of the cardia, hernia of the esophageal orifice of the diaphragm, paraesophageal hernia. Strictures and diverticula of the esophagus" (full-time course)

Syndrome of gastroesophageal reflux, heartburn and dysphagia: achalasia and chalazion of the cardia, hernia of the esophageal orifice of the diaphragm, paraesophageal hernia. Strictures and diverticula of the esophagus

pr.tr.13 "Achalasia and chaliasia of the cardia, strictures and diverticula of the esophagus" (full-time course)

Dysphagia syndrome. Achalasia and chaliasia of the cardia, strictures and diverticula of the esophagus: causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis 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. Work in the simulation center (gastric lavage for chemical burns)

Topic 14. Benign and malignant tumors of the esophagus

pr.tr.14 "Benign and malignant tumors of the esophagus" (full-time course)

Benign and malignant tumors of the esophagus: causes, pathogenesis, clinic, diagnosis and differential diagnosis, treatment, prognosis. Examination of working capacity and rehabilitation of patients. The study of this topic involves theoretical work in the classroom, interpretation of laboratory data, endoscopic examination, X-ray examination of the esophagus in the departments of the medical institution (according to the cooperation agreement between the medical institution and the university). Work at the patient's bedside

Topic 15. Gastroesophageal reflux disease, hernia of the esophageal orifice of the diaphragm. Diaphragm relaxation

pr.tr.15 "Gastroesophageal reflux disease, hernia of the esophageal orifice of the diaphragm" (full-time course)

Syndrome of gastroesophageal reflux and heartburn. Gastroesophageal reflux disease, hernia of the esophageal orifice of the diaphragm, paraesophageal hernia (Barrett's esophagus): causes, pathogenesis, mechanism of development, classification, clinical diagnosis, differential diagnosis and treatment. Rehabilitation of patients. Diaphragm relaxation: causes, mechanism of development, classification, clinic, 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 involves role-playing games, drawing up a plan of examination and treatment

Topic 16. Non-inflammatory diseases of the mediastinum

pr.tr.16 "Non-inflammatory diseases of the mediastinum" (full-time course)

Non-inflammatory diseases of the mediastinum. Tumors and cysts of the mediastinum: types, classification, causes, clinical manifestations, 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. Complaint of the examination and treatment plan.

Topic 17. Congenital heart defects

pr.tr.17 "Congenital heart defects" (full-time course)

Congenital heart defects. Causes, classification, hemodynamics, clinic. Actions of a general practitioner in case of suspected heart disease. Modern diagnostic methods and differential diagnosis, treatment. Complication. Artificial blood circulation. Methods of operative interventions for heart defects and their complications. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching films with methods of functional and instrumental research of the heart with further discussion. Interpretation of the obtained research data in specialized departments of the medical institution (according to the agreement on cooperation between the medical institution and the university), drawing up a plan treatment of the underlying disease

Topic 18. Acquired heart defects

pr.tr.18 "Acquired heart defects" (full-time course)

Acquired heart defects. Causes, classification, hemodynamics, clinic. Actions of a general practitioner if a heart defect is suspected. Modern diagnostic methods and differential diagnosis, treatment. Complication. Artificial blood circulation. Methods of surgical interventions for heart defects and their complications. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies with methods of functional and instrumental examination of the heart with further discussion. Interpretation of the study data in specialized departments of the hospital). treatment of the underlying disease

Topic 19. Ischemic heart disease

pr.tr.19 "Ischemic heart disease" (full-time course)

Coronary heart disease. Myocardial infarction, cardiac aneurysm, conduction and rhythm disorders: causes, pathogenesis, clinic, diagnosis. Actions of a general practitioner when a patient is suspected of having a myocardial infarction and aneurysm of the heart. Invasive treatment of acute myocardial infarction and its complications (thrombolysis, angioplasty, counterpulsation, pacing). 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, when studying this topic, work is envisaged at the patient's bedside in the profile 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. In the simulation center for mastering cardiopulmonary resuscitation

Topic 20. Ischemic heart disease. Treatment

pr.tr.20 ""Treatment of ischemic heart disease."" (full-time course)

Surgical treatment of ventricular aneurysms and postinfarction heart defects, surgical correction of bradycardia, paroxysmal tachycardia and heart fibrillation. Methods of surgical interventions. 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, when studying this topic, work is envisaged at the patient's bedside in the profile 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. In the simulation center for mastering cardiopulmonary resuscitation

Topic 21. Benign and malignant tumors of the breast and breast.

lect.4 "Benign and malignant breast and breast tumors. Dyshormonal diseases of the mammary and breast glands. Mammary and breast gland malformations" (full-time course)

Benign and malignant breast and breast tumors. Dyshormonal diseases of the mammary and breast glands. Mammary and breast gland malformations. Mastitis Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment.

pr.tr.21 "Benign and malignant tumors of the breast and breast." (full-time course)

Benign and malignant tumors of the breast and breast. Causes, classification, clinic, diagnosis, differential diagnosis, treatment. Indications and contraindications to surgery. Actions of a general practitioner in the presence of a patient with a tumor of the breast and breast. The use of virtual simulation (watching movies on methods for determining the clinical symptoms of breast cancer) with further discussion. In the simulation center soft tissue biopsy training and mammogram evaluation

Topic 22. Dyshormonal diseases of the breast and breast

pr.tr.22 "Dyshormonal diseases of the breast and breast" (full-time course)

Dyshormonal diseases of the breast and breast. Causes, classification, clinic, diagnosis, differential diagnosis, treatment. Indications and contraindications to surgery. Actions of a general practitioner in the presence of a patient with a tumor of the breast and breast. The study of this topic involves theoretical work in the classroom, solving situational problems, virtual simulation (watching movies on methods for determining the clinical symptoms of breast cancer) with further discussion. Soft tissue biopsy training in the simulation center

Topic 23. Malformations of the breast and breast. Mastitis

pr.tr.23 "Malformations of the breast and breast. Mastitis" (full-time course)

Malformations of the breast and breast (amastia, polymastia, polythelia, atelia): causes, mechanism of development, clinical manifestations, diagnosis, principles of treatment. Inflammatory diseases of the mammary glands. Mastitis: causes, classification, clinic, diagnosis and differential diagnosis, treatment, prevention. When studying this topic, the use of virtual simulation (watching movies on the methods of determining the clinical symptoms of acute mastitis, mammoplasty methods) with further discussion. Also involves theoretical work in the classroom, in the absence of quarantine restrictions, work at the patient's bedside.

Topic 24. Abdominal injury without damage to internal organs

pr.tr.24 "Abdominal injury without damage to internal organs" (full-time course)

Abdominal injury without damage to internal organs. Classification, mechanism and clinical manifestations of abdominal wall injuries. Diagnosis and formation of a preliminary diagnosis. Therapeutic tactics, actions of a general practitioner for abdominal trauma. The study of this topic involves theoretical work in the classroom, solving situational problems, the use of virtual simulation (watching a film on the methodology of PHO wounds of the abdominal wall) 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 25. Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to parenchymal organs

lect.5 "Closed and open trauma of the abdomen with damage to parenchymal organs" (full-time course)

Closed and open trauma of the abdomen with damage to parenchymal organs. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment

pr.tr.25 "Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to parenchymal organs" (full-time course)

Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to parenchymal organs. Classification, mechanism and clinical manifestations of injuries, abdominal organs and extraperitoneal space. Diagnosis and formation of a preliminary diagnosis. Therapeutic tactics, actions of a general practitioner for abdominal trauma. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (testing laparocentesis and laparoscopy), 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 26. Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to the hollow organs and rectum

lect.6 "Closed and open trauma of the abdomen with damage to hollow organs" (full-time course)

Closed and open trauma of the abdomen with damage to hollow organs. Causes, pathogenesis, classification, clinic, diagnosis, differential diagnosis, treatment

pr.tr.26 "Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to the hollow organs and rectum" (full-time course)

Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to the hollow organs and rectum. Classification, mechanism and clinical manifestations of the abdominal organs and extraperitoneal space. Diagnosis and formation of a preliminary diagnosis. Therapeutic tactics, actions of a general practitioner for abdominal trauma. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (testing laparocentesis and laparoscopy), 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 27. Fractures of the ribs and sternum

pr.tr.27 "Fractures of the ribs and sternum" (full-time course)

Closed and open trauma of the chest and thoracic cavity. Classification. Fractures of the ribs and sternum, the mechanism of injury, clinical manifestations, diagnostic program. Actions of the general practitioner at a chest injury. Therapeutic tactics. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching a movie about the main types of pneumothorax) with further discussion. Work in the simulation center (imposition of an occlusive dressing, assembly of an active triampullary drain, passive according to Beau, carrying out thoracentesis). Role games. If possible, work at the patient's bedside. in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 28. Closed and open trauma to the chest and thoracic cavity. Damage to the lungs

lect.7 "Closed and open trauma of the chest and thoracic cavity. Injuries to the heart, pericardium and main vessels" (full-time course)

Closed and open trauma of the chest and thoracic cavity. Injuries to the heart, pericardium and main vessels. Causes and mechanism of development depending on the species, classification. Clinical manifestations, diagnosis and differential diagnosis and principles of preliminary diagnosis, treatment tactics.

pr.tr.28 "Closed and open trauma to the chest and thoracic cavity. Damage to the lungs" (full-time course)

Closed and open trauma of the chest and thoracic cavity. Classification, the mechanism of injury, clinical manifestations, diagnostic program. Actions of the general practitioner at a chest injury. Therapeutic tactics. The study of this topic involves theoretical work in the classroom, the use of virtual simulation (watching a movie about the main types of pneumothorax) with further discussion. Work in the simulation center (imposition of an occlusive dressing, assembly of an active triampullary drain, passive according to Beau, carrying out thoracentesis). Role games. If possible, work at the patient's bedside. in the profile departments of the medical institution (according to the agreement on cooperation between the medical institution and the university).

Topic 29. Closed and open trauma of the chest and thoracic cavity. Damage to the mediasitial organs

pr.tr.29 "Closed and open trauma of the chest and thoracic cavity. Damage to the mediasitial organs" (full-time course)

Closed and open trauma of the chest and thoracic cavity. Classification. Damage to the mediastital organs (injuries of the heart, pericardium, main vessels, trachea and bronchi). Mechanism of injury, clinical manifestations, diagnostic program. Actions of the general practitioner at a chest injury. Therapeutic tactics. The study of this topic involves theoretical work in the classroom, solving situational problems, the use of virtual simulation (program "Pericardial puncture", watching movies on the methods of suturing heart wounds) 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 30. Polytrauma.

lect.8 "Polytrauma." (full-time course)

Polytrauma. Causes, pathogenesis, classification, severity scales of polytrauma, clinic, diagnosis, differential diagnosis, treatment

pr.tr.30 "Polytrauma." (full-time course)

Multiple trauma (polytrauma). Mechanism of injury, classification, severity characteristics. Shock and collapse in patients with polytrauma, acute respiratory distress syndrome in adults, multiorgan failure syndrome: causes, pathogenesis. Features of clinical manifestations of polytrauma depending on the combination of injuries, diagnostic program, first aid at the prehospital stage, transport immobilization. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (transport immobilization on mannequins, use of scales of polytrauma), the use of virtual simulation (watching movies on the methods of initial inspection and sorting) with further discussion.

Topic 31. Treatment of patients with polytrauma
<p>pr.tr.31 ""Treatment of patients with polytrauma"" (full-time course)</p> <p>Therapeutic tactics. Preoperative preparation and postoperative intensive care. The study of this topic involves theoretical work in the classroom, solving situational problems, work in a simulation center (transport immobilization on mannequins, use of scales of polytrauma), the use of virtual simulation (watching movies on the methods of initial inspection and sorting) with further discussion.</p>
Topic 32. Gunshot wound. Gunshot wounds to the abdomen, chest
<p>lect.9 "Gunshot and mine injuries of the abdomen, chest, pelvis and limbs" (full-time course)</p> <p>Gunshot and mine injuries of the abdomen, chest, pelvis and limbs. Causes, pathogenesis, classification, severity scales of polytrauma, clinic, diagnosis, differential diagnosis, treatment</p>
<p>pr.tr.32 "Gunshot wound. Gunshot wounds to the abdomen, chest" (full-time course)</p> <p>Gunshot wound. Gunshot wounds to the abdomen, chest. The mechanism of injury, wound characteristics, clinical manifestations, bleeding and blood loss, the algorithm of pre-medical and first aid to victims. Diagnostic program, principles 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. In the simulation center for temporary cessation of bleeding and PM of wounds</p>
Topic 33. Gunshot wound. Gunshot wounds to the pelvis and extremities.
<p>pr.tr.33 "Gunshot wound. Gunshot wounds to the pelvis and extremities" (full-time course)</p> <p>Gunshot wound. Gunshot wound pelvis and limbs. The mechanism of injury, wound characteristics, clinical manifestations, bleeding and blood loss, the algorithm of pre-medical and first aid to victims. Diagnostic program, principles 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. In the simulation center for temporary cessation of bleeding and PM of wounds</p>
Topic 34. Mining and explosion trauma
<p>pr.tr.34 "Mining and explosion trauma" (full-time course)</p> <p>Explosive trauma of the abdomen, chest, pelvis and limbs. The mechanism of injury, wound characteristics, clinical manifestations, bleeding and blood loss, the algorithm of pre-medical and first aid to victims. Evacuation of injured with a mine blast. Diagnostic program, principles 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. In the simulation center for temporary cessation of bleeding and P of wounds</p>
Topic 35. Performance of practical skills and manipulations
<p>pr.tr.35 "Performance of practical skills and manipulations" (full-time course)</p> <p>Performance of practical skills and manipulations</p>
Topic 36. Curation of patients

pr.tr.36 "Curation of patients" (full-time course)

Curation of patients and writing of academic history of illness. Protection of medical history
Educational medical history, 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 treatment.

9. Teaching methods

9.1 Teaching methods

Course involves learning through:

TM1	Lecture teaching
TM2	Case-based learning
TM3	Team Based Learning
TM4	Research Based Learning
TM5	Practical training
TM6	Self-study
TM7	Electronic learning

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 treatment plan, to form risk groups. Practicing practical skills allows you to establish the level of knowledge and focus on key issues. Self-study will help prepare for practical classes,

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: exam	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 exam.	According to the schedule	The applicant can get 80 points for the exam. 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.	Last 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 exam

Form of assessment:

	Points	Можливість перескладання з метою підвищення оцінки
The first semester of teaching	200 scores	
SA1. Final control: exam	80	
Answers to theoretical questions and questions of practical training	80	No
SA2. Assessment of medical history writing and defense	10	
Answers to theoretical questions and questions of practical training	10	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 (8+4+8)	20	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 (26+8+26)	60	No
SA5. Final testing	10	
Computer testing according to the subject of the discipline	10	No
SA6. Assessment of performance of practical skills and manipulations	20	
Demonstration of patient examination skills, interpretation of additional examination data, performing manipulations	20	No

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, spirograms, 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	Essentials of visceral surgery. For residents and fellows / F. Billmann, T. Keck –Springer Berlin, Heidelberg – 2023.- 371 p.
2	Emergency abdominal surgery [Електронний ресурс] : study guide / O. L. Sytnik, M. G. Kononenko, Yu. V. Melekhovets, H. I. Piatykor ; ed. by O. L. Sytnik. — Sumy : Sumy State University, 2023. — 166 p.
3	Violence, trauma and trauma surgery. Ethical issues, interventions and innovations / M. Siegler, S. O. Rogers - Springer Nature Switzerland AG 2020.- 2020.- 298 p.
4	Infections in surgery. Prevention and management / M. Sartelli, R. Coimbra, L. Pagani, K. Rasa - Springer Nature Switzerland AG 2021.- 2021.- 278 p.
5	Sytnik, O. L. Hernias of the abdominal wall [Електронний ресурс] : study guide / O. L. Sytnik, H. I. Piatykor, V. Ya. Pak. — Sumy : Sumy State University, 2023. — 61 p.
Supplemental Reading	
1	Minimally Invasive Surgery for Upper Abdominal Cancer [Електронний ресурс] / edited by Miguel A. Cuesta. — 1st ed. 2017. — Cham : Springer International Publishing, 2017. — XV, 368 p. 253 illus., 220 illus. in color.
2	Chest Surgery. Springer Surgery Atlas Series / H. C. Dienemann, H. Hoffmann, F. C. Detterbeck – Springer Verlag Berlin Heidelberg 2015.- 2015.- 548 p.
3	Damage control management in the polytrauma patient / Hans-Christoph Pape, Andrew B. Peitzman Michael F. Rotondo, Peter V. Giannoudis - Springer International Publishing AG 2017.- 2d ed. -2017.- 324 p.
4	Trauma / E. E. Moore, D. V. Feliciano, K. L. Mattox - McGraw-Hill Education.- 8th ed.- 2017.- 1343 p.
5	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.
6	Essential Surgery [Текст] / C. R. G. Quick, J. B. Reed, S. J. F. Harper, K. Saeb-Parsy. — fifth edition. — Edinburgh : Saunders Elsevier, 2014. — 673 p.
7	Breast disease. Diagnosis and pathology, volume 1 / A. Aydiner, A. Igci, A. Soran - Springer Nature Switzerland AG 2019.- 2d ed.- 2019.- 260 p.
Web-based and electronic resources	
1	http://www.mayo.edu/research (Клініка Мейо, США).
2	http://videolectures.net/Top/Medicine/ (Колекція високоякісних медичних відеолекцій світу).
3	https://hirurgiya.com.ua/index.php/journal - періодичний журнал «Клінічна хірургія»
4	https://surgical-school.com.ua/index.php/journal - періодичний журнал «Харківська хірургічна школа»
5	https://essuir.sumdu.edu.ua/ - Electronic Sumy State University Institutional Repository


6	PubMed - https://www.ncbi.nlm.nih.gov/pmc/
7	Міністерство охорони здоров'я - http://www.moz.gov.ua/ua
8	http://www.nbuv.gov.ua/ - Національна бібліотека України імені В. І. Вернадського

COURSE DESCRIPTOR

№	Course Descriptor	Total hours	Classroom work, hours				Independent work of students, hours							
			Total hours	Lectures	Workshops (seminars)	Labs	Total hours	Self-study of the material	Preparation for workshops (seminars)	Preparation for labs	Preparation for assesment	Independent extracurricular tasks		
1	2			3	4	5	6	7	8	9	10	11	12	13
full-time course														
Module 1. Surgical diseases of the chest and thoracic organs														
1	Control of the residual level of knowledge from III - IV courses.			2.5	2	0	2	0	0.5	0	0.5	0	0	0
2	Subcutaneous and mediastinal emphysema			2.5	2	0	2	0	0.5	0	0.5	0	0	0
3	Post-traumatic and spontaneous pneumothorax			2.5	2	0	2	0	0.5	0	0.5	0	0	0
4	Hemothorax, chylothorax			5	4	2	2	0	1	0.5	0.5	0	0	0
5	Pleurisy. Acute pleural empyema, pyopneumothorax			2.5	2	0	2	0	0.5	0	0.5	0	0	0
6	Chronic pleural empyema			2.5	2	0	2	0	0.5	0	0.5	0	0	0
7	Purulent lung diseases: abscess and lung gangrene.			5	4	2	2	0	1	0.5	0.5	0	0	0
8	Lung abscess and gangrene: treatment			2.5	2	0	2	0	0.5	0	0.5	0	0	0
9	Mediastinitis			2.5	2	0	2	0	0.5	0	0.5	0	0	0
10	Bronchiectasis			2.5	2	0	2	0	0.5	0	0.5	0	0	0
11	Benign tumors of the bronchi and lungs, lung cancer			2.5	2	0	2	0	0.5	0	0.5	0	0	0
12	Pulmonary hemorrhage			2.5	2	0	2	0	0.5	0	0.5	0	0	0
13	Achalasia and chaliasia of the cardia, strictures and diverticula of the esophagus			5	4	2	2	0	1	0.5	0.5	0	0	0
14	Benign and malignant tumors of the esophagus			2.5	2	0	2	0	0.5	0	0.5	0	0	0
15	Gastroesophageal reflux disease, hernia of the esophageal orifice of the diaphragm. Diaphragm relaxation			2.5	2	0	2	0	0.5	0	0.5	0	0	0

1	2	3	4	5	6	7	8	9	10	11	12	13
16	Non-inflammatory diseases of the mediastinum	2.5	2	0	2	0	0.5	0	0.5	0	0	0
17	Congenital heart defects	2.5	2	0	2	0	0.5	0	0.5	0	0	0
18	Acquired heart defects	2.5	2	0	2	0	0.5	0	0.5	0	0	0
19	Ischemic heart disease	2.5	2	0	2	0	0.5	0	0.5	0	0	0
20	Ischemic heart disease. Treatment	2.5	2	0	2	0	0.5	0	0.5	0	0	0
Module 2. Developmental abnormalities and diseases of the breast and breast												
1	Benign and malignant tumors of the breast and breast.	5	4	2	2	0	1	0.5	0.5	0	0	0
2	Dyshormonal diseases of the breast and breast	2.5	2	0	2	0	0.5	0	0.5	0	0	0
3	Malformations of the breast and breast. Mastitis	2.5	2	0	2	0	0.5	0	0.5	0	0	0
Module 3. Injury of abdominal and thoracic organs, combat trauma												
1	Abdominal injury without damage to internal organs	2.5	2	0	2	0	0.5	0	0.5	0	0	0
2	Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to parenchymal organs	5	4	2	2	0	1	0.5	0.5	0	0	0
3	Closed and open injuries of the abdomen and its organs: abdominal trauma with damage to the hollow organs and rectum	5	4	2	2	0	1	0.5	0.5	0	0	0
4	Fractures of the ribs and sternum	2.5	2	0	2	0	0.5	0	0.5	0	0	0
5	Closed and open trauma to the chest and thoracic cavity. Damage to the lungs	5	4	2	2	0	1	0.5	0.5	0	0	0
6	Closed and open trauma of the chest and thoracic cavity. Damage to the mediasital organs	2.5	2	0	2	0	0.5	0	0.5	0	0	0
7	Polytrauma.	5	4	2	2	0	1	0.5	0.5	0	0	0
8	Treatment of patients with polytrauma	2.5	2	0	2	0	0.5	0	0.5	0	0	0
9	Gunshot wound. Gunshot wounds to the abdomen, chest	5	4	2	2	0	1	0.5	0.5	0	0	0
10	Gunshot wound. Gunshot wounds to the pelvis and extremities.	2.5	2	0	2	0	0.5	0	0.5	0	0	0
11	Mining and explosion trauma	2.5	2	0	2	0	0.5	0	0.5	0	0	0
12	Performance of practical skills and manipulations	2.5	2	0	2	0	0.5	0	0.5	0	0	0
13	Curation of patients	2.5	2	0	2	0	0.5	0	0.5	0	0	0
Assesment												

1	2	3	4	5	6	7	8	9	10	11	12	13
1	Exam	30	0	0	0	0	30	0	0	0	30	0
Independent extracurricular tasks												
<i>Total (full-time course)</i>		<i>120</i>	<i>90</i>	<i>18</i>	<i>72</i>	<i>0</i>	<i>30</i>	<i>4.5</i>	<i>18</i>	<i>0</i>	<i>30</i>	<i>0</i>

	<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 2024 Duration one semester Mode of study full-time course Language of instruction English</p>
Teacher(s)	Danylenko Ihor Anatoliiovych
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://mix.sumdu.edu.ua/textbooks/81442
Syllabus	https://pg.cabinet.sumdu.edu.ua/report/course/9130d6ac140eb295d383daeb9a31df1a4337474
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

добросовісності.

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 exam. 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