

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE**

**SUMY STATE UNIVERSITY**

Academic and Research Medical Institute

Кафедра внутрішньої медицини з центром респіраторної медицини

**INTERNAL MEDICINE**

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| <b>Higher education level</b> | The Second             |
| <b>Major: study programme</b> | 222 Medicine: Medicine |

Approved by Quality Council HHMI

Chairman of the Quality Council HHMI  
Petrashenko Viktoriia Oleksandrivna

## DATA ON APPROVAL

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| Considered and approved at the meeting of the work group of Study programme<br>Медицина                           | Head of the work group<br>(Head of the Study programme)<br>Prystupa Liudmyla Nykodymivna |
| Considered and approved at the meeting of the<br>Кафедра внутрішньої медицини з центром респіраторної<br>медицини | Head of the Department<br>Prystupa Liudmyla Nykodymivna                                  |

# SYLLABUS

## 1. General information on the course

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| <b>Full course name</b>                                     | Internal Medicine  |
| <b>Full official name of a higher education institution</b> | Sumy State University  |
| <b>Full name of a structural unit</b>                       | Academic and Research Medical Institute.<br>Кафедра внутрішньої медицини з центром респіраторної медицини  |
| <b>Author(s)</b>  | Kovchun Anna Volodymyrivna, Dudchenko Iryna Oleksandrivna, Prystupa Liudmyla Nykodymivna, Kachkovska Vladyslava Volodymyrivna  |
| <b>Cycle/higher education level</b>                         | The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle               |
| <b>Duration</b>   | one semester   |
| <b>Workload</b>   | 4 ECTS, 120 hours. For full-time course 90 hours are working hours with the lecturer (10 hours of lectures, 80 hours of seminars), 30 hours of the individual study. |
| <b>Language(s)</b>  | English  |

## 2. Place in the study programme

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| <b>Relation to curriculum</b>  | Compulsory course available for study programme "Medicine"  |
| <b>Prerequisites</b>           | "Krok-1", Required knowledge: - Latin and medical terminology, - medical biology, - medical informatics, - human anatomy - physiology, - histology, cytology and embryology, - biological and bioorganic chemistry, - microbiology, virology and immunology, - pathomorphology, - pathophysiology, - pharmacology, - hygiene and ecology, - propedeutics of internal medicine, - nursing practice, - radiology. |
| <b>Additional requirements</b> | There are no specific requirements  |
| <b>Restrictions</b>            | There are no specific restrictions  |

## 3. Aims of the course

Achievement by students of deep modern knowledge and professional skills in internal medicine, in particular the principles of diagnosis, treatment and prevention of diseases of internal organs, including mastering the skills of collecting anamnesis, conducting a physical examination,

differential diagnosis and treatment principles in compliance with the principles of medical ethics and deontology based on knowledge from basic fundamental disciplines.

#### 4. Contents

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| <b>Module 1. Fundamentals of diagnosis, treatment and prevention of major diseases of the digestive system.</b>   |
| Topic 1 Gastroesophageal reflux disease (GERD). Dyspepsia. Chronic gastritis.<br>GERD, dyspepsia, chronic gastritis: definition, etiology, pathogenesis. The role of gastroesophageal reflux in the development of esophagitis and Barrett's esophagus. The role of H. pylori in the occurrence of chronic gastritis. Classification. Erosive and non-erosive GERD. Non-atrophic and atrophic gastritis. Clinical manifestations depending on the variant and stage. Diagnostic criteria, differential diagnosis. The value of endoscopic (with morphological verification) and X-ray examination for diagnosis. Complications. Differentiated therapy from a position of evidence-based medicine. Modern approaches to the treatment of functional dyspepsia. Primary and secondary prevention. Prognosis and workability. |
| Topic 2 Peptic ulcer and other peptic ulcers of the stomach and duodenum.<br>Definition. The role of H. pylori, acid-peptic factor and medications in the occurrence of peptic ulcers and their recurrence. Features of the course of HP-positive and HP-negative ulcers. Complications (perforation, penetration, bleeding, impaired evacuation and motor function). The value of instrumental and laboratory diagnostic methods. Methods for the diagnosis of Hp infection. Modern tactics of peptic ulcer patient management from a position of evidence-based medicine. Eradication therapy. Control of eradication. Drug therapy for Hp-negative ulcers. Indications for surgical treatment. Primary and secondary prevention. Prognosis and workability.  |
| Topic 3 Biliary disease: cholelithiasis, chronic cholecystitis and functional biliary disorders.<br>Definition. Etiology, pathogenesis. The importance of infection, motility disorders and dyscholia in the development of chronic acalculous cholecystitis, cholangitis and gallstone disease. Features of the clinical course. The role of instrumental methods in diagnostics. Differential diagnosis. Complications. Differentiated treatment depending on the clinical option and the presence of complications, from a position of evidence-based medicine. Indications for surgical treatment. Primary and secondary prevention. Prognosis and workability.   |
| Topic 4 Chronic diseases of the small intestine: celiac disease and other enteropathies.<br>Definition. Etiology, pathogenesis. The role of food intolerances, enzymopathies and immune factors. Syndromes of malabsorption and maldigestion. Diagnostic criteria, differential diagnosis. Complications. Differentiated therapy from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.   |

Topic 5 Chronic diseases of the colon: ulcerative colitis, Crohn's disease, irritable bowel syndrome.

Nonspecific colitis (ulcerative colitis and Crohn's disease): definition, etiology and pathogenesis. Classification. Features of the clinical course depending on the degree of activity, severity and phase of the course. Diagnostic criteria. Differential diagnosis. Treatment. Complications and diseases associated with ulcerative colitis (sclerosing cholangitis, spondylitis, arthritis, dermatoses). Prognosis and workability. Irritable Bowel Syndrome: Definition, Rome Diagnostic Criteria. Etiology and pathogenesis. Classification. Clinical manifestations of various options. Diagnostic criteria and criteria for excluding a diagnosis. Differential diagnosis. Treatment from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.

Topic 6 Chronic hepatitis.

Definition. Classification. The role of persistence of the virus, drug agents, immune disorders and alcohol. Methods for diagnosing a viral infection. Autoimmune hepatitis, chronic viral, drug-induced hepatitis. Alcoholic liver disease. The main clinical and biochemical syndromes. Features of the clinical course and diagnosis of individual forms. The importance of morphological, biochemical and imaging methods. Differential diagnosis. Complications. Features of treatment of various forms from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.

Topic 7 Liver cirrhosis.

Definition. Significance of viral infection, nutritional factors, alcohol, toxic substances and immunological disorders. Classification. Features of clinical manifestations and diagnostics of various forms. Differential diagnosis. Liver failure and other complications. Differentiated therapy from a position of evidence-based medicine. Emergency treatment of complications. Primary and secondary prevention. Prognosis and workability.

Topic 8 Chronic pancreatitis.

Definition. Significance of various etiological factors. Classification. Features of the clinical course, diagnosis and differential diagnosis. Complications. Research methods in the diagnosis of pancreatitis. Differentiated treatment from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.

## **Module 2. Fundamentals of diagnosis, treatment and prevention of major respiratory diseases.**

Topic 9 Chronic obstructive pulmonary disease. Bronchiectasis.

Definition of chronic obstructive pulmonary disease. The role of smoking, environmental, occupational factors and infection in the development of chronic bronchitis. Classification. Clinical manifestations. Differential diagnosis. Complications. Treatment depending on the stage by GOLD. Primary and secondary prevention. Prognosis and workability. Definition of bronchiectasis. Etiology, classification and diagnostic criteria. Differential diagnosis. Complications. Methods of conservative treatment and indications for surgical treatment from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.

Topic 10 Bronchial asthma.

Definition. Etiology, features of pathogenesis. Classification. Clinical manifestations and changes in instrumental research methods depending on the severity. Differential diagnosis. Complications. Treatment depending on the severity from a position of evidence-based medicine. The role of spirometry and peak-flowmetry. Emergency care for severe exacerbation of bronchial asthma. Primary and secondary prevention. Prognosis and workability.

Topic 11 Community-acquired pneumonia

Definition, etiology, pathogenesis. Features of the etiology and clinical course of aspiration pneumonia and pneumonia in persons with severe immunity defects. Criteria for the diagnosis and severity of community-acquired pneumonia. The role of laboratory and instrumental methods in diagnostics. Differential diagnosis. Features of the clinical course depending on the severity of the disease. Differential treatment from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.

Topic 12 Nosocomial pneumonia.

Definition, etiology, pathogenesis. Criteria for the diagnosis of nosocomial pneumonia and the severity of its course. The role of laboratory and instrumental methods in diagnostics. Differential diagnosis. Features of the clinical course depending on the severity of the disease. Differential treatment from a position of evidence-based medicine. Primary and secondary prevention. Prognosis and workability.

Topic 13 Complications of pneumonia.

Definition, etiology, pathogenesis, clinical features of the course, diagnostic criteria, therapeutic options for treatment from a position of evidence-based medicine, indications and methods of surgical treatment, complications of dry and exudative pleurisy, pleural empyema, abscess and gangrene of the lung.

**Module 3. Fundamentals of diagnosis, treatment and prevention of major diseases of the blood and hematopoietic organs.**

Topic 14 Anemia (iron deficiency, B12-deficiency, folate deficiency, hemolytic, aplastic, post-hemorrhagic).

Definition. Etiological factors and pathogenesis. Features of the clinical and laboratory diagnostics of various forms. Differential diagnosis. Complications. Treatment of various forms from a position of evidence-based medicine. Transfusion of blood components. Primary and secondary prevention. Prognosis and workability.

Topic 15 Acute leukemias.

Definition, classification, etiology and pathogenesis of the development of acute leukemia. The main clinical syndromes. Laboratory diagnostics, diagnostic criteria and differential diagnosis. Treatment principles from a position of evidence-based medicine, criteria of remission, indications for bone marrow transplantation. Prognosis and workability.

Topic 16 Chronic leukemias.

Definition, classification, etiology and pathogenesis of the development of chronic leukemia. The main clinical syndromes. Laboratory diagnostics, diagnostic criteria and differential diagnosis. Treatment principles from a position of evidence-based medicine, treatment response criteria, indications for bone marrow transplantation. Prognosis and workability.

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| <p>Topic 17 Lymphomas.</p> <p>Definition, etiology, pathogenesis and classification of lymphomas, clinical features of the course of various variants of lymphomas. The main clinical syndromes. Laboratory diagnostics, diagnostic criteria and differential diagnostics. Treatment principles from a position of evidence-based medicine, treatment response criteria. Prognosis and workability.</p>   |
| <p>Topic 18 Multiple myeloma.</p> <p>Definition, etiology, pathogenesis and classification, staging of multiple myeloma. The main clinical syndromes. Laboratory diagnosis, diagnostic criteria and differential diagnosis. Treatment principles from a position of evidence-based medicine, treatment response criteria, indications for radiation therapy. Prognosis and workability.</p>   |
| <p>Topic 19 Hemophilia. Thrombocytopenic purpura.</p> <p>Definition, etiology, pathogenesis and classification of hemophilia. Clinical manifestations, laboratory diagnostics and differential diagnostics. Treatment from a position of evidence-based medicine and preoperative preparation of patients with hemophilia. Prognosis and workability. Definition, etiology, pathogenesis and classification of thrombocytopenic purpura. Clinical manifestations, laboratory diagnostics and differential diagnostics. Treatment from a position of evidence-based medicine. Prevention of bleeding. Prognosis and workability.</p> |
| <p>Topic 20 Defense of medical history.</p> <p>Educational case history, based on clinical curation of patients with registration of examination data and additional research methods, with the aim of establishing and substantiating the diagnosis and prescribing a treatment regimen.</p>   |
| <p>Topic 21 Performance of practical skills and manipulations</p> <p>Performance of practical skills and manipulations</p>  |
| <p>Topic 22 Practice-oriented exam</p> <p>Conducting the exam in accordance with the regulations</p>  |

## 5. Intended learning outcomes of the course

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

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| LO1 | Conduct a survey and objective examination of patients with gastroenterological, pulmonological and hematological diseases, taking into account ethical aspects.  |
| LO2 | Determine the necessary list of laboratory and instrumental studies for examining a patient with pathology of the gastrointestinal tract, respiratory system and blood system, as well as interpret the results obtained. |
| LO3 | Carry out a differential diagnosis, substantiate and formulate a diagnosis based on the analysis of laboratory and instrumental examination data.   |
| LO4 | Determine the necessary mode of work, rest and the nature of nutrition in the treatment of diseases of the gastrointestinal tract, respiratory system and blood system.   |
| LO5 | To prescribe treatment from the standpoint of evidence-based medicine, to carry out prophylaxis for patients with gastroenterological, pulmonological and hematological diseases, to perform medical manipulations.       |

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| LO6  | To diagnose emergency conditions, to determine the tactics of providing emergency medical care in gastroenterology (abdominal pain, acute liver failure, gastrointestinal bleeding), pulmonology (severe exacerbation of bronchial asthma, acute respiratory failure, community-acquired and hospital pneumonia of severe course, exacerbation of pulmonary disease of chronic obstruction ) and hematology (severe anemia, agranulocytosis) |
| LO7  | Solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility.   |
| LO8  | Maintain electronic documentation, including electronic forms.   |
| LO9  | To determine the appropriate approach in emergency medical care case of a patient with gastroenterological, pulmonological and hematological diseases.   |
| LO10 | To be able to diagnose emergency conditions, determine the tactics of providing emergency medical care, conducting treatment and evacuation measures for patients with gastroenterological, pulmonological and hematological diseases  |
| LO11 | Integrate knowledge and address complex health challenges in multidisciplinary contexts.   |
| LO12 | Be able to solve medical problems in new or unfamiliar environments in the presence of incomplete or limited information, taking into account aspects of social and ethical responsibility.  |
| LO13 | Be able to perform medical procedures at a medical facility, at home or at work on the basis of a provisional clinical diagnosis   |
| LO14 | Be able to organize medical evacuation procedures among the population and the military under emergency and military operation conditions  |
| LO15 | Establish a final clinical diagnosis   |
| LO16 | Be able to organize an appropriate level of individual safety  |
| LO17 | To acquire skills for carrying out sanitary and hygienic and preventive measures   |

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

Programme learning outcomes achieved by the course.

For 222 Medicine:

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| PO1 | To detect and identify the leading clinical symptoms and syndromes; to establish the most probable nosological or syndromic preliminary clinical diagnosis of diseases 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 based on laboratory and instrumental findings.  |
| PO3 | To order and analyze additional (mandatory and optional) examinations (laboratory, radiological, functional and/or instrumental) in order to perform a differential diagnosis of diseases.   |



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| 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.   |
| PO5  | To detect the key clinical syndrome or the reason for patient's condition severity 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 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 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 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 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 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 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.  |

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| 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.   |
| 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

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| SS1 | Ability to abstract thinking, analysis, and synthesis.                                   |
| SS2 | Ability to learn, master modern knowledge, and apply the knowledge in practice.          |
| SS3 | Knowledge and understanding of the subject area and professional activity comprehension. |
| 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

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| <b>Topic 1. Gastroesophageal reflux disease (GERD). Dyspepsia. Chronic gastritis.</b>   |
| pr.tr.1 "Gastroesophageal reflux disease. Dyspepsia" (full-time course)<br>Definition, etiology, pathogenesis, clinical picture, diagnosis. Treatment and prevention of gastroesophageal reflux disease and dyspepsia.  |
| pr.tr.2 "Chronic gastritis" (full-time course)<br>Definition, etiology, pathogenesis, clinical picture, diagnosis. Treatment and prevention of chronic gastritis. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside (under a cooperation agreement between the hospital and the university), as well as viewing videos with endoscopic examination of the esophagus and stomach. |
| <b>Topic 2. Peptic ulcer and other peptic ulcers of the stomach and duodenum.</b>   |

pr.tr.3 "Peptic ulcer and other peptic ulcers of the stomach and duodenum 12." (full-time course)  
Definition, etiology, pathogenesis, clinical picture, diagnosis of peptic ulcer and other peptic ulcers of the stomach and duodenum 12. Complications. Treatment and prevention. Prognosis and workability. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside (under a cooperation agreement between the hospital and the university ), as well as viewing videos with endoscopic examination of the stomach and duodenum.

**Topic 3. Biliary disease: cholelithiasis, chronic cholecystitis and functional biliary disorders.**

pr.tr.4 "Gallstone disease" (full-time course)  
Definition, etiology, pathogenesis of gallstone disease. Diagnostic criteria and the role of imaging methods, differential diagnosis, treatment. Primary and secondary prevention. Prognosis and workability.

pr.tr.5 "Chronic cholecystitis" (full-time course)  
Definition, etiology, pathogenesis of chronic cholecystitis. Diagnostic criteria and the role of laboratory methods, differential diagnosis, treatment. Primary and secondary prevention. Prognosis and workability.

pr.tr.6 "Functional biliary disorders" (full-time course)  
Definition, etiology, pathogenesis of functional biliary disorders. diagnostic criteria and the role of laboratory methods, differential diagnosis, treatment. primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the study room, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for examining and/or treating the patient at the patient's bedside (under a cooperation agreement between hospital and university), as well as viewing X-ray, ultrasound video and CT scans.

**Topic 4. Chronic diseases of the small intestine: celiac disease and other enteropathies.**

pr.tr.7 "Celiac disease" (full-time course)  
Definition, etiology, pathogenesis of celization. Diagnostic criteria, the role of laboratory and instrumental methods, differential diagnosis, treatment. Prognosis and workability.

pr.tr.8 "Enteropathies (lactose intolerance, tropical sprue, bacterial overgrowth syndrome)" (full-time course)  
Definition, etiology, pathogenesis of enteropathies. Diagnostic criteria and the role of laboratory methods, differential diagnosis, treatment. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside (under a cooperation agreement between the hospital and the university), as well as viewing educational videos with their visualizations by methods of studying the small intestine.

**Topic 5. Chronic diseases of the colon: ulcerative colitis, Crohn's disease, irritable bowel syndrome.**

lect.1 "Chronic colon disease: nonspecific colitis" (full-time course)

Teaching is carried out in the form of multimedia lectures

pr.tr.9 "Nonspecific ulcerative colitis" (full-time course)

Definition, etiology, pathogenesis and classification of nonspecific ulcerative colitis. clinical course, diagnostic criteria, differential diagnosis. Treatment and complications. Prognosis and workability.

pr.tr.10 "Crohn's disease" (full-time course)

Definition, etiology, pathogenesis and classification of Crohn's disease. Clinical course, diagnostic criteria, differential diagnosis. Treatment and complications. Prognosis and workability.

pr.tr.11 "Irritable bowel syndrome" (full-time course)

Definition, etiology, pathogenesis, Roman diagnostic criteria and classification of irritable bowel syndrome. Clinical manifestations, differential diagnosis, treatment. Complications. Prognosis and workability. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside (under a cooperation agreement between the hospital and the university), as well as viewing videos of colonoscopy and analysis of images made during irigoscopies.

**Topic 6. Chronic hepatitis.**

pr.tr.12 "Chronic hepatitis" (full-time course)

Definition, etiology, pathogenesis and classification of viral, autoimmune and drug hepatitis.

pr.tr.13 "Chronic hepatitis" (full-time course)

Laboratory and instrumental diagnostics of various types of hepatitis. Differential diagnosis. Complications. Treatment of various forms of hepatitis. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside, as well as viewing and interpretation results of CT examination, data of endoscopic, X-ray and ultrasound examination in the gastroenterological or therapeutic department, according to a cooperation agreement between the hospital and the university.

**Topic 7. Liver cirrhosis.**

pr.tr.14 "Cirrhosis of the liver" (full-time course)

Definition. Significance of viral infection, nutritional factors, alcohol, toxic substances and immunological disorders. Classification. Clinical manifestations.

pr.tr.15 "Cirrhosis of the liver" (full-time course)

Diagnostics. Differential diagnosis. Liver failure and other complications.

pr.tr.16 "Cirrhosis of the liver" (full-time course)

Differentiated therapy. Emergency treatment of complications. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside, as well as viewing and interpretation results of CT examination, data of endoscopic, X-ray and ultrasound examination in the gastroenterological or therapeutic department of a medical institution, according to a cooperation agreement between the hospital and the university.

### **Topic 8. Chronic pancreatitis.**

pr.tr.17 "Chronic pancreatitis" (full-time course)

Definition, etiology, classification of chronic pancreatitis. Features of the clinical course, diagnosis and differential diagnosis. Laboratory and instrumental research methods in the diagnosis of chronic pancreatitis.

pr.tr.18 "Chronic pancreatitis" (full-time course)

Differentiated treatment. Complications. Indications for surgical treatment. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the classroom, mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient at the patient's bedside, as well as viewing and interpretation visualization research methods in the departments of a medical institution, according to a cooperation agreement between the hospital and the university.

### **Topic 9. Chronic obstructive pulmonary disease. Bronchiectasis.**

pr.tr.19 "Chronic obstructive pulmonary disease" (full-time course)

Definition, etiology, pathogenesis and clinical manifestations of chronic obstructive pulmonary disease.

pr.tr.20 "Chronic obstructive pulmonary disease" (full-time course)

Diagnostic criteria and differential diagnosis of chronic obstructive pulmonary disease. Complications. Treatment, prognosis and workability.

pr.tr.21 "Bronchiectasis" (full-time course)

Definition, etiology, classification, diagnostic criteria and clinical manifestations of bronchiectasis. Differential diagnosis. Complications. Conservative treatment, indications for surgical treatment. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the ward – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for examination and/or treatment; use of a spirograph, peak-flowmeter and training in working with the main types of inhalation components used in pulmonology, the viewing and interpreting imaging research methods in the departments of a medical institution (according to a cooperation agreement between a hospital and a university).

### **Topic 10. Bronchial asthma.**

lect.2 "Bronchial asthma" (full-time course)

Teaching is carried out in the form of multimedia lectures

pr.tr.22 "Bronchial asthma" (full-time course)

Definition. Etiology, features of pathogenesis. Classification. Clinical manifestations and changes in these instrumental research methods, depending on the severity. Differential diagnosis.

pr.tr.23 "Bronchial asthma" (full-time course)

Complications. Treatment depending on the severity. Emergency care for severe exacerbation of bronchial asthma. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient; use of a spirograph, peak flow meter and training in working with the main types of inhalation components used in the treatment of bronchial asthma, the viewing and interpreting imaging research methods in the departments of a medical institution (according to a cooperation agreement between the hospital and the university).

### **Topic 11. Community-acquired pneumonia**

lect.3 "Community-acquired pneumonia" (full-time course)

Teaching is carried out in the form of multimedia lectures

pr.tr.24 "Community-acquired pneumonia" (full-time course)

Definition, etiology, pathogenesis of community-acquired pneumonia. Diagnostic criteria and severity. The role of laboratory and instrumental methods in diagnostics.

pr.tr.25 "Community-acquired pneumonia" (full-time course)

Features of the etiology and clinical course of aspiration pneumonia and pneumonia in persons with severe immunity defects. Differential diagnosis. Features of the clinical course depending on the severity of the disease. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient; the viewing and interpretation of X-ray and CT studies in the departments of a medical institution (according to a cooperation agreement between the hospital and the university).

**Topic 12. Nosocomial pneumonia.**

pr.tr.26 "Nosocomial pneumonia" (full-time course)

Definition, etiology, pathogenesis, diagnostic criteria, clinical features course, differential diagnosis, treatment of nosocomial pneumonia. Primary and secondary prevention. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and / or treatment of the patient; viewing and interpretation of X-ray and CT studies in the departments of a medical institution (according to a cooperation agreement between the hospital and the university).

**Topic 13. Complications of pneumonia.**

pr.tr.27 "Complications of pneumonia" (full-time course)

Definition, etiology, pathogenesis, clinical features of the course, criteria for diagnosis, treatment and complications of dry and exudative pleurisy, pleural empyema, abscess and gangrene of the lung. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient; viewing and interpretation of X-ray and CT studies in the departments of a medical institution (according to a cooperation agreement between a hospital and a university) viewing video materials with a demonstration of the technique of performing pleural puncture, installing drainage.

**Topic 14. Anemia (iron deficiency, B12-deficiency, folate deficiency, hemolytic, aplastic, post-hemorrhagic).**

lect.4 "Anemia" (full-time course)

Teaching is carried out in the form of multimedia lectures

pr.tr.28 "Iron deficiency and post-hemorrhagic anemia" (full-time course)

Definition, etiology and pathogenesis, clinical picture, diagnosis, differential diagnosis, treatment of iron deficiency and posthemorrhagic anemia.

pr.tr.29 "B-12 deficiency and folate-deficiency anemia" (full-time course)

Definition, etiology and pathogenesis, clinical picture, diagnosis, differential diagnosis and treatment of B12-deficiency and folate-deficiency anemia.

pr.tr.30 "Hemolytic and aplastic anemia" (full-time course)

Definition, etiology and pathogenesis, clinical picture, diagnosis, differential diagnosis and treatment of hemolytic and aplastic anemia. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient (under a cooperation agreement between the hospital and university).

**Topic 15. Acute leukemias.**

pr.tr.31 "Acute leukemias" (full-time course)

Definition, classification, etiology, pathogenesis, clinical syndromes, laboratory diagnosis of acute leukemia.

pr.tr.32 "Acute leukemias" (full-time course)

Diagnostic criteria, differential diagnosis, treatment, remission criteria, indications for bone marrow transplantation, prognosis and workability in acute leukemia. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient (under a cooperation agreement between the hospital and university); familiarization with the set for performing trepanobiopsy and sternal puncture and watching video instructions for using a needle for bone marrow puncture and trepanobiopsy.

**Topic 16. Chronic leukemias.**

lect.5 "Leukemias" (full-time course)

Teaching is carried out in the form of multimedia lectures

pr.tr.33 "Chronic leukemias" (full-time course)

Definition, classification, etiology, pathogenesis, main clinical syndromes and laboratory diagnosis of chronic leukemia.

pr.tr.34 "Chronic leukemias" (full-time course)

Diagnostic criteria, differential diagnosis, treatment, treatment response criteria, indications for bone marrow transplantation, prognosis and workability in chronic leukemia. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient (under a cooperation agreement between the hospital and university); familiarization with the set for performing trepanobiopsy and sternal puncture and watching video instructions for using a needle for bone marrow puncture and trepanobiopsy.



pr.tr.35 "Treatment of chronic leukemias." (full-time course)

Principles of treatment, criteria of response to treatment of chronic leukemias. Forecast and performance. The study of this topic involves drawing up a plan for further examination and/or treatment of the patient (according to the cooperation agreement between the medical institution and the university). Under quarantine conditions, work using a virtual simulation of gathering and analyzing the above information, as well as mastering skills using role-playing games, case-study.

**Topic 17. Lymphomas.**

pr.tr.36 "Lymphomas" (full-time course)

Definition, etiology, pathogenesis, clinical manifestations, laboratory diagnostics, diagnostic criteria and differential diagnostics. Treatment principles, treatment response criteria. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the patient's bed - mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient (under a cooperation agreement between the medical institution and university) viewing video instructions for puncture and biopsy of the lymph node; viewing and interpretation of X-ray, CT and PET CT studies.

**Topic 18. Multiple myeloma.**

pr.tr.37 "Multiple myeloma" (full-time course)

Definition, etiology, pathogenesis and classification, staging and clinical syndromes of multiple myeloma. Laboratory diagnostics, diagnostic criteria and differential diagnosis, treatment, treatment response criteria, indications for radiation therapy. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient (under a cooperation agreement between the hospital and university); familiarization with the set for puncture and biopsy of the lymph node; application of virtual simulation (review and interpretation of X-ray, CT, PET CT and scintigraphic studies).

**Topic 19. Hemophilia. Thrombocytopenic purpura.**

pr.tr.38 "Hemophilia. Thrombocytopenic purpura" (full-time course)

Definition, etiology, pathogenesis and classification of hemophilia, thrombocytopenic purpura. Clinical manifestations, laboratory diagnostics and differential diagnostics. Treatment and preoperative preparation of patients with hemophilia, thrombocytopenic purpura. Prognosis and workability. The study of this topic involves theoretical work in the study room, at the patient's bed – mastering the skills of taking anamnesis, physical examination, analyzing laboratory and instrumental research results, conducting differential diagnostics and drawing up a plan for further examination and/or treatment of the patient (under a cooperation agreement between the hospital and university).

**Topic 20. Defense of medical history.**

|   |
|---|
| pr.tr.39 "Defense of medical history" (full-time course)<br>Defense of the medical history includes questions of the peculiarities of collecting anamnesis, examination methods, diagnosis verification, differential diagnosis and treatment of the disease that was available in each specific case (according to the patient's underlying disease, which was provided to the student for supervision). |
| <b>Topic 21. Performance of practical skills and manipulations</b>  |
| pr.tr.40 "Performance of practical skills and manipulations" (full-time course)<br>Performance of practical skills and manipulations  |
| <b>Topic 22. Practice-oriented exam</b>   |
| assessm.41 "Practice-oriented exam" (full-time course)<br>Assessment of theoretical knowledge and practical skills  |

## 9. Teaching methods

### 9.1 Teaching methods

Course involves learning through:

|     |  |
|-----|--|
| TM1 | Analysis of specific situations (Case-study) |
| TM2 | Interactive lectures                         |
| TM3 | Team-based learning (TBL)                    |
| TM4 | Practical training                           |
| TM5 | Self-study                                   |
| TM6 | Electronic learning                          |
| TM7 | Research-based learning (RBL)                |

The discipline is taught using modern teaching methods that contribute to the development of professional abilities, aimed at training practice-oriented specialists, and stimulate scientific activity.

Ability for abstract thinking, analysis and synthesis. Ability to learn, acquire modern knowledge and apply it in practical situations. Knowledge and understanding of the subject area and understanding of professional activities. Ability to adapt and act in a new situation. Ability to make informed decisions; work in a team; interpersonal skills. Ability to use information and communication technologies. Certainty and persistence in the tasks and responsibilities taken.

### 9.2 Learning activities

|     |   |
|-----|---|
| LA1 | Practical work with a patient in specialized departments of the hospital.   |
| LA2 | Interpretation of laboratory results (clinical analysis of blood, urine, biochemical blood test, immunological studies, etc.) and instrumental (spirometry, ultrasound, CT, radiography, spirometry, etc.) examination methods. |
| LA3 | E-learning in Google Meet, MIX learning systems   |

|      |   |
|------|---|
| LA4  | Writing and protecting medical history  |
| LA5  | Analysis of clinical cases.   |
| LA6  | Exam Preparation  |
| LA7  | Preparation and presentation of the report  |
| LA8  | Working with textbooks and relevant information sources                           |
| LA9  | Performing a group practical task   |
| LA10 | Individual research project (student scientific work, article, abstracts, report) |
| LA11 | Practicing practical skills in the simulation center                              |
| LA12 | Preparation for practical classes   |

## 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<br>Defence of<br>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. The defense of the medical history is provided, when the student must provide answers to questions about the patient he treated, the causes and provoking factors of the disease, modern methods of | 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>FA2<br/>Surveys and oral comments of the teacher on its results</p>  | <p>The instructions reveal 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 bedside" of the patient with subsequent determination of the level of practical training</p> |
| <p>FA3<br/>Solving situational tasks</p>  | <p>The case method allows you 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 student abilities to clinical thinking, substantiating one's decisions, expressing one's opinions clearly, determining the level of theoretical training</p>  |
| <p>FA4<br/>Testing</p>  | <p>A method of effectively checking the level of assimilation of knowledge, abilities and skills in an educational discipline. Testing allows you to check the results of learning after completing the topic.</p>   | <p>During the entire period of studying the discipline</p> | <p>The minimum percentage of successful passing of tests is 60% of correct answers.</p>  |
| <p>FA5<br/>Consulting the teacher during the preparation of an individual research project (speech at a conference, competition of scientific papers)</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, diligence, capacity for work, initiative, etc. Teacher's oral comments. The student</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>FA6<br/>Discussions in focus groups</p>   | <p>The method makes it possible to involve all participants in the process of discussion and justification of one's own opinion through multilateral communication, to develop the ability to conduct a professional discussion, to cultivate respect for colleagues and the ability to generate alternative ideas and proposals.</p> | <p>During the entire period of studying the discipline</p>   | <p>Assessment of the student's ability to work in a team, ability to justify their decisions, determination of the level of theoretical training, which is reflected in the corresponding assessment</p> |
| <p>FA7<br/>Practical skills test</p>   | <p>Practicing practical skills on various mannequins and simulators.</p>  | <p>During the entire period of study. At the last lesson, the student must successfully perform practice</p> | <p>Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired practical skills</p>   |
| <p>FA8<br/>Analysis of understanding indicators of laboratory and instrumental examination methods</p> | <p>A key factor in conducting differential diagnosis is a comprehensive assessment of the patient's condition, taking into account the results of laboratory and instrumental examinations.</p>   | <p>During the entire period of studying the discipline</p>   | <p>Providing comments by the teacher on the correctness of the applicant's interpretation of the examination results and further discussion of disagreements.</p>  |

|   |   |   |   |
|---|---|---|---|
| FA9<br>Survey and teacher's oral comments based on his results                          | The instructions reveal 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.                                     | During the entire period of studying the discipline | Counseling of students in working with a standardized patient, direct and indirect observation of the work of applicants "at the bedside" of the patient with subsequent determination of the level of practical training |
| FA10<br>The task of assessing the level of theoretical training                         | 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 | During the entire period of studying the discipline | Feedback is aimed at supporting students' independent work, identifying shortcomings and assessing the level of acquired theoretical knowledge  |
| FA11<br>Counseling of the teacher during the preparation of the presentation and speech | An important factor in the formation of professional qualities of future specialists is the ability to clearly formulate and express one's opinion, the use of modern techniques of oratory. Involvement of applicants in the preparation of their own reports contributes to the formation of the above-mentioned skills.  | During the entire period of studying the discipline | Correction together with the applicants of approaches to the preparation of the report and speech plan.   |
| FA12<br>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  |

### 10.3 Summative assessment

|  | Description | Deadline, weeks | Feedback |
|--|-------------|-----------------|----------|
|--|-------------|-----------------|----------|

|   |  |  |  |
|---|--|--|--|
| <p>SA1<br/>Final control:<br/>exam</p>  | <p>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.</p>   | <p>According to the schedule</p>                           | <p>The applicant can get 80 points for the exam. The minimum number of points a student must receive is 48 points</p>  |
| <p>SA2<br/>Objective<br/>Structured<br/>Clinical<br/>Examination<br/>(OSCE)</p> | <p>The student must prove his ability to examine the patient, make the correct diagnosis, prescribe and carry out treatment, taking into account the individual characteristics of the patient and observing the basic principles of ethics and deontology. Comprehensive practice of the practical component of academic programs in a safe simulation environment for students. Provides an opportunity to learn skills from a variety of emergency situations.</p>  | <p>During the entire period of studying the discipline</p> | <p>The entire period of studying the discipline. At the last lesson, the student must complete practical skills</p>  |
| <p>SA3<br/>Defence of the<br/>medical history</p>                               | <p>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. The defense of the medical history is provided, when the student must provide answers to questions about the patient he treated, the causes and provoking factors of the disease, modern methods of</p> | <p>According to the calendar and thematic plan</p>         | <p>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</p> |
| <p>SA4<br/>Testing</p>  | <p>A method of effective verification of the level of assimilation of knowledge, abilities and skills from an educational discipline. Testing allows you to check the learning results during the cycle and determine the level of knowledge at the end of learning the topic.</p>   | <p>At the end of each topic</p>                            | <p>The student receives a grade based on the number of correct answers, this grade is a component of the student's total score for each topic.</p>                         |

|  |   |   |  |
|--|---|---|--|
| SA5<br>Assessment of the level of theoretical training | Forms the skills of independent activity in students, prompts them to strive for exploratory knowledge. Stimulates students to work with the necessary literature, transfers the learning process from the level of passive absorption of information to the level of active transformation of it | During the entire period of studying the discipline | Held at each class, the result of performing the LO affects the comprehensive assessment for the practical class |
|--|---|---|--|

Form of assessment:

|   |   | Points            | Можливість перескладання з метою підвищення оцінки |
|---|---|-------------------|--|
| <b>The first semester of teaching</b>                 |   | <b>200 scores</b> |  |
| SA1. Final control: exam                              |   | <b>80</b>         |  |
|   | 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. | 80                | No   |
| SA2. Objective Structured Clinical Examination (OSCE) |   | <b>40</b>         |  |
|   |   | 40                | No   |
| SA3. Defence of the medical history                   |   | <b>10</b>         |  |
|   | Writing and defense of medical history  | 10                | No   |
| SA4. Testing  |   | <b>30</b>         |  |
|   |   | 30                | No   |
| SA5. Assessment of the level of theoretical training  |   | <b>40</b>         |  |
|   |   | 40                | No   |

For each practical lesson, a max of 5 points is assigned (the mark is given in the traditional 4-point grading system). At the end, the arithmetic average of the student's progress is calculated. The max number of points that a student can receive in practical classes during the academic year is  $110 \cdot \text{arithmetic mean} / 5$ . For writing a medical history and its defense, the following points are assigned: "5" – 5 p., "4" – 4 p., "3" – 3 p., "2" – 0 p.. In total, a max of 10 points can be obtained for a medical history, a min – 6. The max number of points for a student's current educational activity is 120, the min is 72 (provided that the requirements of the curriculum are met). The exam consists of 4 tasks (3 theoretical questions and 1 practical task), for each of which the following points are assigned: "5" – 20 p., "4" – 16 p., "3" – 12 p., "2" – 0 p. . Thus, the max number of points for the exam is 80, the min – 48. Incentive points are added to the assessment in the discipline: for a prize in the II round of the Olympiad in a discipline or in a competition of student scientific papers - 12 points, for participation in a student scientific forum in the form of an oral report - 5 points, for participation in a scientific forum in the form of a poster presentation - 4 points, in the form of publication of abstracts - 3 points, in the selection of video material on the discipline - 2 points. The grade for the discipline is defined as the sum of points for the current educational activity (not less



than 72), points for the student's individual independent work (not more than 12) and points for the exam (not less than 48). The total score for a discipline can't be more than 200.

## 11. Learning resources

### 11.1 Material and technical support

|      |  |
|------|--|
| MTS1 | Information and communication systems  |
| MTS2 | Library funds, archive of roentgenograms, spiograms, electrocardiograms, computed tomograms, results of laboratory examination methods   |
| MTS3 | Medical facilities / premises and equipment ("Sumka Regional Clinical Hospital" and "Sumy Regional Specialized Dispensary for Radiation Protection of the Population")                 |
| MTS4 | Computers, computer systems and networks   |
| MTS5 | Medical equipment (spirometer, peak flow meter, electrocardiograph, height meter, scales, fibrogastroscopy, tonometer, phonendoscope, capillaroscope, glucometer, infusion pump, etc.) |
| MTS6 | Software (to support distance learning, Internet survey, virtual laboratories, virtual patients, for creating computer graphics, modeling, etc.)                                       |
| MTS7 | Multimedia, video and reproducing, Projection equipment (video cameras, a projector, screens, smartdos, etc.)  |

### 11.2 Information and methodical support


| <b>Essential Reading</b>    |   |
|-----------------------------|---|
| 1                           | Internal Medicine: in 2 books. Book 1. Diseases of the Cardiovascular and Respiratory Systems: textbook / N.M. Seredyuk, I.P. Vakaliuk, R.I. Yatsyshyn et al. 2019p. «Medicine» - 664 p.  |
| 2                           | Internal Medicine [Текст] : textbook: in 2 books. Book 1 : Diseases of the Cardiovascular and Respiratory Systems / I. P. Vakaliuk, R. I. Yatsyshyn, M. M. Ostrovskyy et al. — К. : Medicine, 2019. — 664 с. + Гриф МОН; Гриф МОЗ.  |
| 3                           | Vynnychenko L.B Internal Medicine: Hematology: study guide / L. B. Vynnychenko, L. N. Prystupa, O. M. Chernatska ; under the editorship of V.F. Orlovsky, N.V. Demikhova. – Sumy : Sumy State University, 2019. – 136 p.  |
| 4                           | Internal medicine [Текст] = Внутрішня медицина : textbook. P. 2 : Pulmonology. Gastroenterology. Nephrology. Diseases of the internal organs in countries with hot climate / K. M. Amosova, O. Ya. Babak, I. P. Katerenchuk et al. ; eds. : M. A. Stanislavchuk, V. K. Sierkova. — Vinnytsya : Nova Knyha, 2019. — 360 p. |
| <b>Supplemental Reading</b> |   |
| 1                           | Goldman-Cecil medicine [Текст]. V.1 / L. Goldman, L. Schafer, M. Crow etc. — 25-th ed. — Saunders: Saunders Elsevier, 2016. — 1489 p.   |
| 2                           | Bateson M. Clinical Investigations in Gastroenterology [Electronic resource] / M. Bateson, A. D Bouchier ; by Malcolm C. Bateson, Ian A.D. Bouchier. – 3rd ed. 2017. – Cham : Springer International Publishing, 2017. – XIX, 225 p.  |

|   |  |
|---|--|
| 3   | USMLE Step 2 CK: Internal Medicine [Текст] : Lecture Notes / Editors J.J. Lieber, F.P. Noto. — New York : Kaplan, 2019. — 503 p.   |
| 4   | Villatoro, V. A Laboratory Guide to Clinical Hematology [Электронный ресурс] / V. Villatoro, M. To. — 1st ed. — University of Alberta, 2018. — 302 p.  |
| 5   | Internal Medicine: Critical Care [Текст] : textbook / O. Ya. Babak, O. M. Bilovol, N. M. Zhelezniakova etc. ; Edit.: O.Ya. Babak, O.M. Bilovol. — second edition. — K. : AUS Medicine Publishing, 2018. — 368 p.   |
| <b>Web-based and electronic resources</b> |  |
| 1   | EASL Recommendations on Treatment of Hepatitis C. Clinical Practice Guidelines, 2018 — 51 p. ( <a href="https://easl.eu/wp-content/uploads/2018/10/HepC-English-report.pdf">https://easl.eu/wp-content/uploads/2018/10/HepC-English-report.pdf</a> )                             |
| 2   | EASL Recommendations on Treatment of Hepatitis B. Clinical Practice Guidelines, 2017 — 29 p. ( <a href="https://easl.eu/wp-content/uploads/2018/10/HepB-English-report.pdf">https://easl.eu/wp-content/uploads/2018/10/HepB-English-report.pdf</a> )                             |
| 3   | EASL Recommendations on Nutrition in chronic liver disease, 2018 — 22 p. ( <a href="https://easl.eu/wp-content/uploads/2018/10/EASL-CPG-nutrition-in-chronic-liver-disease.pdf">https://easl.eu/wp-content/uploads/2018/10/EASL-CPG-nutrition-in-chronic-liver-disease.pdf</a> ) |
| 4   | EASL Recommendations on Management of patients with decompensated cirrhosis ( <a href="https://easl.eu/wp-content/uploads/2018/10/decompensated-cirrhosis-English-report.pdf">https://easl.eu/wp-content/uploads/2018/10/decompensated-cirrhosis-English-report.pdf</a> )        |
| 5   | Global Initiative for Chronic Obstructive Lung Disease. GOLD, Updated 2019, <a href="http://goldcopd.org/">goldcopd.org/</a> .   |
| 6   | Global Initiative for Asthma. GINA, Updated 2019, <a href="https://ginasthma.org/">https://ginasthma.org/</a> .  |

## 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 |
| <b>full-time course</b>  |   |             |                       |          |                      |      |                                     |                            |                                      |                      |                           |                                   |    |
| Module 1. Fundamentals of diagnosis, treatment and prevention of major diseases of the digestive system. |   |             |                       |          |                      |      |                                     |                            |                                      |                      |                           |                                   |    |
| 1  | Gastroesophageal reflux disease (GERD). Dyspepsia. Chronic gastritis.                         |             | 5                     | 4        | 0                    | 4    | 0                                   | 1                          | 0                                    | 1                    | 0                         | 0                                 | 0  |
| 2  | Peptic ulcer and other peptic ulcers of the stomach and duodenum.                             |             | 2.5                   | 2        | 0                    | 2    | 0                                   | 0.5                        | 0                                    | 0.5                  | 0                         | 0                                 | 0  |
| 3  | Biliary disease: cholelithiasis, chronic cholecystitis and functional biliary disorders.      |             | 7.5                   | 6        | 0                    | 6    | 0                                   | 1.5                        | 0                                    | 1.5                  | 0                         | 0                                 | 0  |
| 4  | Chronic diseases of the small intestine: celiac disease and other enteropathies.              |             | 5                     | 4        | 0                    | 4    | 0                                   | 1                          | 0                                    | 1                    | 0                         | 0                                 | 0  |
| 5  | Chronic diseases of the colon: ulcerative colitis, Crohn's disease, irritable bowel syndrome. |             | 10                    | 8        | 2                    | 6    | 0                                   | 2                          | 0.5                                  | 1.5                  | 0                         | 0                                 | 0  |
| 6  | Chronic hepatitis.  |             | 5                     | 4        | 0                    | 4    | 0                                   | 1                          | 0                                    | 1                    | 0                         | 0                                 | 0  |
| 7  | Liver cirrhosis.  |             | 7.5                   | 6        | 0                    | 6    | 0                                   | 1.5                        | 0                                    | 1.5                  | 0                         | 0                                 | 0  |
| 8  | Chronic pancreatitis.   |             | 5                     | 4        | 0                    | 4    | 0                                   | 1                          | 0                                    | 1                    | 0                         | 0                                 | 0  |
| Module 2. Fundamentals of diagnosis, treatment and prevention of major respiratory diseases.             |   |             |                       |          |                      |      |                                     |                            |                                      |                      |                           |                                   |    |
| 1  | Chronic obstructive pulmonary disease. Bronchiectasis.  |             | 7.5                   | 6        | 0                    | 6    | 0                                   | 1.5                        | 0                                    | 1.5                  | 0                         | 0                                 | 0  |
| 2  | Bronchial asthma.   |             | 7.5                   | 6        | 2                    | 4    | 0                                   | 1.5                        | 0.5                                  | 1                    | 0                         | 0                                 | 0  |
| 3  | Community-acquired pneumonia  |             | 7.5                   | 6        | 2                    | 4    | 0                                   | 1.5                        | 0.5                                  | 1                    | 0                         | 0                                 | 0  |
| 4  | Nosocomial pneumonia.   |             | 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       |
|--|---|------------|-----------|-----------|-----------|----------|-----------|------------|-----------|----------|-----------|----------|
| 5  | Complications of pneumonia.   | 2.5        | 2         | 0         | 2         | 0        | 0.5       | 0          | 0.5       | 0        | 0         | 0        |
| Module 3. Fundamentals of diagnosis, treatment and prevention of major diseases of the blood and hematopoietic organs. |   |            |           |           |           |          |           |            |           |          |           |          |
| 1  | Anemia (iron deficiency, B12-deficiency, folate deficiency, hemolytic, aplastic, post-hemorrhagic). | 10         | 8         | 2         | 6         | 0        | 2         | 0.5        | 1.5       | 0        | 0         | 0        |
| 2  | Acute leukemias.  | 5          | 4         | 0         | 4         | 0        | 1         | 0          | 1         | 0        | 0         | 0        |
| 3  | Chronic leukemias.  | 10         | 8         | 2         | 6         | 0        | 2         | 0.5        | 1.5       | 0        | 0         | 0        |
| 4  | Lymphomas.  | 2.5        | 2         | 0         | 2         | 0        | 0.5       | 0          | 0.5       | 0        | 0         | 0        |
| 5  | Multiple myeloma.   | 2.5        | 2         | 0         | 2         | 0        | 0.5       | 0          | 0.5       | 0        | 0         | 0        |
| 6  | Hemophilia. Thrombocytopenic purpura.   | 2.5        | 2         | 0         | 2         | 0        | 0.5       | 0          | 0.5       | 0        | 0         | 0        |
| 7  | Defense of medical history.   | 2.5        | 2         | 0         | 2         | 0        | 0.5       | 0          | 0.5       | 0        | 0         | 0        |
| 8  | Performance of practical skills and manipulations   | 2.5        | 2         | 0         | 2         | 0        | 0.5       | 0          | 0.5       | 0        | 0         | 0        |
| 9  | Practice-oriented exam  | 0          | 0         | 0         | 0         | 0        | 0         | 0          | 0         | 0        | 0         | 0        |
| Assesment  |   |            |           |           |           |          |           |            |           |          |           |          |
| 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>10</i> | <i>80</i> | <i>0</i> | <i>30</i> | <i>2.5</i> | <i>20</i> | <i>0</i> | <i>30</i> | <i>0</i> |

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|--|---|
|                     | <p style="text-align: center;"><b>UNIVERSITY POLICIES FOR THE COURSE</b><br/><b>«Internal Medicine»</b></p> <p><b>Higher education level</b> The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle<br/> <b>Major: Educational programme</b> 222 Medicine: Medicine<br/> <b>Year of study</b> 2024<br/> <b>Duration</b> one semester<br/> <b>Mode of study</b> full-time course<br/> <b>Language of instruction</b> English</p> |
| <p><b>Teacher(s)</b></p>   | <p>Kovchun Anna Volodymyrivna, Dudchenko Iryna Oleksandrivna, Prystupa Liudmyla Nykodymivna, Kachkovska Vladyslava Volodymyrivna</p>  |
| <p><b>Contact</b></p>  | <p>Iryna Dudchenko, Ph.D., Associate Professor of Internal Medicine, e-mail: <a href="mailto:i.dudchenko@med.sumdu.edu.ua">i.dudchenko@med.sumdu.edu.ua</a> Anna Kovchun, PhD, Assistant, Internal Medicine department, e-mail: <a href="mailto:a.kovchun@med.sumdu.edu.ua">a.kovchun@med.sumdu.edu.ua</a></p>  |
| <p><b>Time and room for giving consultations</b></p>   | <p>18, Kovpaka str., Sumy Regional Clinical Hospital on Thursdays, 15.00-17.00</p>  |
| <p><b>Links to online educational platforms</b></p>  | <p><a href="https://elearning.sumdu.edu.ua/works/3192/nodes/586692">https://elearning.sumdu.edu.ua/works/3192/nodes/586692</a></p>  |
| <p><b>Syllabus</b></p>   | <p><a href="https://pg.cabinet.sumdu.edu.ua/report/course/b3ffca39285b52aa17fce9b257baf5ca4343159">https://pg.cabinet.sumdu.edu.ua/report/course/b3ffca39285b52aa17fce9b257baf5ca4343159</a></p>  |
| <p><b>Channels for maintaining contact with the group for receiving and working on materials</b></p> | <p>Mix.sumdu.edu.ua, e-mail, Viber</p>  |

## 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.

Несанкціоноване використання інструментів штучного інтелекту є порушенням академічної доброчесності.

### **Політика щодо використання матеріалів з джерел відкритого доступу**

При використанні здобувачами освіти матеріалів з джерел відкритого доступу для підготовки робіт, визначених силабусом та регламентом навчальної дисципліни, вони обов'язково мають дотримуватись умов ліцензій Creative Commons на використання об'єктів авторського права.

### **Attendance policy**

Students are required to attend 100% of practical lessons and 60% of lectures. In case of skipping the classes, the student must rework missed class by the schedule of reworks, which the department approved according to the relevant Dean's office instructions.

### **Deadlines and course retake policy**

In the case of an unsatisfactory exam result, the student has the right to retake the semester exam twice: the first time - to the examiner, who is appointed by the Head of the department, the second - to the Commission, which the Dean's office creates. Re-examination is carried out by an individual schedule which the dean's office approves. Students who did not come to the exam without valid reason are considered as those who received an unsatisfactory grade. A student's refusal to perform examination tasks is considered an unsatisfactory answer. The student has the right to get an explanation concerning the received grade.

### **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**

For each practical lesson, a max of 5 points is assigned (the mark is given in the traditional 4-point grading system). At the end, the arithmetic average of the student's progress is calculated. The max number of points that a student can receive in practical classes during the academic year is  $110 \cdot \text{arithmetic mean} / 5$ . For writing a medical history and its defense, the following points are assigned: "5" – 5 p., "4" – 4 p., "3" – 3 p., "2" – 0 p. In total, a max of 10 points can be obtained for a medical history, a min – 6. The max number of points for a student's current educational activity is 120, the min is 72 (provided that the requirements of the curriculum are met). The exam consists of 4 tasks (3 theoretical questions and 1 practical task), for each of which the following points are assigned: "5" – 20 p., "4" – 16 p., "3" – 12 p., "2" – 0 p. Thus, the max number of points for the exam is 80, the min – 48. Incentive points are added to the assessment in the discipline: for a prize in the II round of the Olympiad in a discipline or in a competition of student scientific papers - 12 points, for participation in a student scientific forum in the form of an oral report - 5 points, for participation in a scientific forum in the form of a poster presentation - 4 points, in the form of publication of abstracts - 3 points, in the selection of video material on the discipline - 2 points. The grade for the discipline is defined as the sum of points for the current educational activity (not less than 72), points for the student's individual independent work (not more than 12) and points for the exam (not less than 48). The total score for a discipline can't be more than 200.