The Ministry of Health of Ukraine

Danylo Halytsky Lviv National Medical University

Department of Phthisiology and Pulmonology

"Approved" _____
The first vise-rector of scientific-pedagogical work
Assoc. prof. I.SOLONYNKO ——————
«_____»_____2023

EXECUTABLE CODE OF EDUCATIONAL DISCIPLINE

_____SU 3.1.1.4. PHTHISIOLOGY_____

_____SU 3.1.1. INTERNAL MEDICINE, ENDOCRINOLOGY, INFECTIOUS DISEASES, PHTHISIOLOGY, CLINICAL IMMUNOLOGY AND ALLERGOLOGY, GENERAL PRACTICE (FAMILY MEDICINE), PALLIATIVE AND HOSPICE MEDICINE_____

SU 3.1. INDIVIDUAL PROFILE COURSE **INTERNAL MEDICINE**

training of specialists of the second (master) level of higher education
field of knowledge 22 "Health care"
specialty 222 "Medicine"

Discussed and accepted
on meeting of Department
of phthisiology and pulmonology
Protocol №__ from _____2023
Chief of Department
_____Prof. Kostyk O.P.

Ratified
a methodical commission of therapeutic disciplines
Protocol № ____from_____2023
Head of methodical commission
_____Prof. Radchenko O.M.

INTRODUCTION

Program of study of the academic discipline "Phthisiology"

according to the Standard of higher education of the second (master's) level

field of knowledge 22 "Health care"

specialty 222 "Medicine"

educational program of master of medicine

Annotation of the discipline “Phthisiology”

The academic discipline "Phthisiology" is studied by students of an individual profile course Internal medicine, based on the knowledge and skills acquired in the study of phthisiology in the 5th year; and other clinical and basic disciplines and completes the acquisition of general and professional competencies for their application in professional practice.

Structure educational disciplines	Amount of credits, hours, from them				A year of studies	Type of control
	All	Auditory		S-Ws		
		Lecture	Practical classes			
Module: Phthisiology Semantic modules 1	1 credits ECTS/ 30 год.	-	15	15	6 year course (XI або XII семестри)	Credit

The subject of study of the discipline are:
- methods of timely detection and diagnosis of tuberculosis;
- clinical and diagnostic signs of tuberculosis;
- differential diagnosis of tuberculosis;
- basic principles of treatment of patients with tuberculosis;
- prevention of tuberculosis and infection control measures.

Interdisciplinary connections. "Phthisiology" as a discipline:
- is based on the study of anatomy, physiology, pathomorphology, pathophysiology, microbiology, pharmacology, propaedeutics of internal medicine, propaedeutics of pediatrics, radiology, hygiene and ecology, epidemiology and integrates with these disciplines;
- involves the relationship with the following disciplines: internal medicine, surgery, pediatrics, neurology, infectious diseases, pediatric infectious diseases, oncology and develops the ability to apply knowledge of phthisiology in further education and professional activities.

1. Aim and task of educational discipline

1.1 The purpose of the academic discipline "Phthisiology" is mastering modern diagnostic methods, differential diagnosis, treatment, prevention of tuberculosis, formation of the ability of students to use knowledge, skills to solve various problems of professional activity of a doctor in the field of health care.

1.2. The main tasks of studying the discipline "Phthisiology" are:

- - management of timely detection and diagnosis of tuberculosis;
- differential diagnosis of pulmonary tuberculosis;
- prescribing standardized treatment to patients with sensitive and chemoresistant tuberculosis;
- diagnose emergencies in patients with tuberculosis and provide them with emergency care;
- prevention of tuberculosis and infection control.

1.3 Competences and learning outcomes, the formation of which is facilitated by the discipline (relationship with the normative content of training of higher education, formulated in terms of learning outcomes in the Standard of Higher Education).

According to the requirements of the Standard of Higher Education, the discipline ensures that students acquire ***competencies***:

Integral competence - the ability to solve complex problems, including research and innovation in the field of medicine. Ability to continue learning with a high degree of autonomy.

-General:

GC1 – Ability to abstract thinking, analysis and synthesis.
GC2 – Ability to to learn and master modern knowledge.
GC3 – Ability to apply knowledge in practical situations.
GC4 – Knowledge and understanding of the subject area and understanding of professional activity.
GC5 – Ability to adapt and act in a new situation.
GC6 – Ability to make informed decisions.
GC7 – Ability to work in a team.
GC8 – Interpersonal skills.
GC9 – Ability to communicate in a foreign language.
GC10 – Skills in the use of information and communication technologies.
GC11 - Ability to search, study and analyze information from various sources.
GC12 – Definiteness and perseverance in terms of tasks and responsibilities.
GC13 – Awareness of equal opportunities and gender issues.
GC14 – The ability to exercise their rights and obligations as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, rights and freedoms of man and citizen in Ukraine.

GC15 – The ability to preserve and multiply moral, cultural, scientific values and achievements of society on the basis of an understanding of the history and laws of the development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technology, use various types and forms of motor activity for active recreation and leading a healthy lifestyle.

-Special (professional, subject):

SC1 – Ability to collect medical information about the patient and analyze clinical data.

SC2 – Ability to determine the required list of laboratory and instrumental studies and evaluate their results.

SC3 – Ability to establish preliminary and clinical diagnoses of tuberculosis.

SC4 – Ability to determine the required mode of work and rest in the treatment of tuberculosis.

SC5 – Ability to determine the nature of nutrition in the treatment of tuberculosis.

SC6 – Ability to determine the principles and nature of tuberculosis treatment.

SC7 – Ability to diagnose of emergency conditions.

SC8 – Ability to determine the tactics of emergency medical care.

SC10 – Ability to perform medical manipulations.

SC13 – Ability to carry out sanitary and hygienic and preventive measures.

SC14 – Ability to plan and carry out preventive and anti-epidemic measures against tuberculosis.

SC16 – Ability to maintain medical records, including electronic forms.

SC24 – Compliance with ethical principles when working with patients, laboratory animals.

SC17 – Compliance with professional and academic integrity, be responsible for the reliability of the scientific results obtained.

Detailing of competencies according to NQF descriptors in the form of "Competence Matrix".

Competence matrix

№	Competence	Knowledge	Skills	Communication	Autonomy and responsibility
General competencies					
1.	Ability to abstract thinking, analysis and synthesis.	Know the methods of analysis and synthesis.	Be able to reason, prove, generalize and form conclusions.	Establish appropriate links to achieve goals.	Bear responsibility for the combination of analysis and synthesis during the study of the subject.
2.	Ability to learn and master modern knowledge.	Know modern methods and ways of learning.	Be able to master modern knowledge.	Establish appropriate links to achieve goals.	Be responsible for the timely acquisition of modern knowledge.

3.	Ability to apply knowledge in practical situations	Know the methods of implementing knowledge in solving practical problems.	Be able to use professional knowledge to solve practical problems.	Establish links with the subjects of practical activities.	Be responsible for the validity of decisions.
4.	Knowledge and understanding of the subject area and understanding of professional activity	Have a deep knowledge of the structure of professional activity.	Be able to carry out professional activities that require updating and integration of knowledge.	Ability to effectively form a communication strategy in professional activities.	To be responsible for professional development, ability to further professional training with a high level of autonomy.
5.	Ability to adapt and action in a new situation.	Know the types and methods of adaptation, principles of action in a new situation.	To be able to apply means of self-regulation, to be able to adapt to new situations (circumstances) of life and activity.	Establish appropriate connections to achieve results.	Be responsible for the quality of professional tasks in the new situation.
6.	Ability to make informed decisions.	Know the factors that influence decision-making.	Be able to make informed decisions.	Use communication strategies to discuss issues, exchange views.	Be responsible for the validity of the decisions made.
7.	Ability to work in a team.	Know the tactics and strategies of communication, laws and ways of communicative behavior.	Be able to make choose ways and strategies to communicate to ensure effective teamwork.	Use communication strategies and interpersonal skills.	Be responsible for choosing the method of communication.
8.	Interpersonal skills.	Know the laws and methods of interpersonal interaction.	Be able to choose ways and strategies of communication for interpersonal interaction	Use interpersonal skills.	Be responsible for choosing the method of communication.
9.	Ability to communicate in a foreign language.	Have a basic knowledge of a foreign language.	Be able to communicate in a foreign language.	Use a foreign language in professional activities.	Be responsible for the development of professional knowledge using a foreign language.
10.	Skills in the use of information and communication technologies.	Have in-depth knowledge in the field of information and communication technologies used in professional activities.	Be able to use information and communication technologies in the professional field.	Use information and communication technologies in professional activities.	Be responsible for the development of professional knowledge and skills.
11.	Ability to search, study and analyze information from various sources.	Know the methods and methods of finding information of cut sources.	Be able to search and analyze information from various sources.	Apply communication technologies in the search and analysis of information.	Be responsible for the ability to search and process information from various sources.
12.	Certainty and perseverance regarding the tasks and responsibilities taken.	Know the responsibilities and ways of performing the tasks.	Be able to identify goals and objectives; be persistent and conscientious in the performance of duties.	Establish interpersonal connections to effectively perform tasks and responsibilities.	Be responsible for the quality performance of tasks.

13.	Awareness of equal opportunities and gender issues.	Know the possible problems of gender equality.	Be able to exercise control over the observance of gender equality within the limits of authority.	To take into account the interests of all members of the social community, to tolerate persons with gender differences.	Realize and adhere to gender equality.
14.	Ability to exercise their rights and responsibilities as a member of society, to realize values of civil (free democratic) society and the need for its sustainable development, rule of law, human and civil rights and freedoms in Ukraine.	Know your rights and responsibilities as a member of society.	Be able to exercise their rights and responsibilities as a member of society.	Understand the values of civil society.	Be personally responsible for the exercise of their rights and obligations.
15.	Ability to preserve and multiply moral, cultural, scientific values and the achievements of society on the basis of understanding the history and laws of the development of the subject area, its place in the general. a system of knowledge about nature and society and in the development of society, technology and technology, use different types and forms of	Know the moral, cultural, scientific values and achievements of society, the basic rules of a healthy	Demonstrate socially responsible and conscious behavior, follow humanistic and democratic values in professional and social activities.	Promote moral, cultural, scientific values, leading a healthy lifestyle.	Take effective measures to maintain a healthy lifestyle and maintain health (personal and environment).

	motor activity for active rest and leading a healthy lifestyle.				
Special (professional, subject) competencies					
1.	Skills of interviewing and clinical examination of the patient.	Know the standard methods and schemes of interviewing, physical examination of the patient.	Be able to collect patient complaints, medical history and life, conduct a physical examination of the patient.	Effectively form a communica-tion strategy when communi-cating with the patient and his relatives.	Carry responsibility for the quality collection of patient information based on survey, examination, palpation, percussion and auscultation.
2.	Ability to determine the required list of laboratory and instrumental studies and evaluate their results.	Know the necessary laboratory and instrumental tests for the diagnosis of tuberculosis.	Be able to schedule laboratory and instrumental examinations by applying standard methods and analyze the results of laboratory and instrumental studies.	Professionally inform the patient about the need for a list laboratory and instrumental research and the results of these examinations.	Be responsible for the correct appointment of laboratory and instrumental tests, timely and accurate evaluation of their results.
3.	Ability to establish a preliminary and clinical diagnosis	Know algorithms for the diagnosis of tuberculosis, the selection of leading symptoms or syndromes.	On the basis of the examination to be able to diagnose tuberculosis and formulate it according to the clinical classification.	On the basis of normative documents to keep medical documentation of the patient (card of the outpatient / inpatient patient).	Adhering to ethical and legal norms, be responsible for making informed decisions and actions regarding the correctness of the preliminary and clinical diagnosis.
4.	Ability to determine the required mode of work and rest in the treatment of diseases.	Know the algorithms and standard schemes for determining the mode of work and rest in tuberculosis.	Be able to determine the necessary mode of work and rest of patients with tuberculosis.	To form and inform the patient and / or his relatives about the necessary mode of work and rest.	Be responsible for the validity of the appointment of work and rest.
5.	Ability to determine the nature of nutrition in the treatment of diseases.	To know algorithms and standard schemes of selection of medical food at tuberculosis.	Be able to choose the right food for patients with tuberculosis.	Form and communicate to the patient and / or his relatives conclusions about proper nutrition in tuberculosis.	Be responsible for selecting the right diet for TB patients.
6.	Ability to determine the principles and nature of tuberculosis treatment.	Have specialized knowledge of algorithms and standard schemes treatment and prevention of tuberculosis.	Be able to prescribe treatment to a patient with tuberculosis, carry out prevention of the disease..	Inform the patient about the need for mandatory treatment of tuberculosis and strict adherence to all doctor's recommendations.	Be responsible for the timely appointment of adequate treatment of a patient with tuberculosis, carry out prevention of the disease..

7.	Ability to diagnose emergencies.	Know the clinical signs and methods of diagnosing emergencies in tuberculosis (pulmonary hemorrhage, spontaneous pneumothorax).	Be able to timely identify and adequately assess the urgent condition of the patient.	It is reasonable to inform the patient and / or relatives about the presence of an emergency and the need for emergency medical care.	Be responsible for the timeliness and accuracy of determining the emergency condition and its severity.
8.	Ability to determine the tactics of emergency medical care.	Know the algorithms for providing emergency medical care in emergencies in tuberculosis.	Be able to apply tactics of emergency medical care.	It is reasonable to inform the patient or relatives about the need for emergency care and obtain consent for medical intervention.	Be responsible for the correctness of determining the tactics of emergency medical care, timeliness and quality of emergency medical care.
10.	Skills to perform medical manipulations.	Have specialized knowledge of algorithms for performing medical manipulations.	Be able to perform medical manipulations.	It is reasonable to form and convey to the patient and / or his relatives conclusions about the need for medical manipulations.	Be responsible for the quality of medical manipulations.
13.	Ability to carry out sanitary and hygienic and preventive measures.	Know the types of tuberculosis prevention (vaccination, BCG revaccination; chemoprophylaxis; sanitary prevention).	Be able to carry out sanitary and hygienic and preventive measures aimed at preventing infection and tuberculosis of the population.	Inform the population about the need for prevention of tuberculosis.	To be responsible for timely and high-quality prevention of tuberculosis.
14.	Ability to plan and carry out preventive and anti-epidemic measures against infectious diseases.	To know the system of anti-epidemic measures of infectious control of tuberculosis.	Be able to carry out anti-epidemic measures in the center of tuberculosis infection.	Inform the population and medical staff about the need for anti-epidemic measures in the center of tuberculosis infection and strict compliance with the requirements of infection control in medical institutions.	To be responsible for the timeliness of anti-epidemic measures in the center of tuberculosis infection and strict compliance with the requirements of infection control in medical institutions.
16.	Ability to keep medical records including electronic forms .	Know the system of official document management in the work of a doctor, the basic rules of medical records.	Be able to fill out medical documents, in particular using modern computer information technology.	Apply interpersonal skills for quality medical records.	Carry responsibility for the quality and completeness of medical records.
24.	Compliance with ethical principles when working with patients, laboratory animals.	Know ethical principles when working with patients and laboratory animals.	Be able to apply ethical standards and principles in professional activities.	In professional activity, adhere to moral and ethical principles and professional subordination.	Be personally responsible for compliance with ethical standards and principles in professional activities.

25.	Compliance with professional and academic integrity, be responsible for the reliability of the scientific results obtained.	Know the organizational and legal factors of professional and academic integrity.	To put into practice the standards and principles of professional and academic integrity.	Promote the dissemination among the representatives of the professional and scientific environment of the priorities of the professional and academic integrity.	Bear personal responsibility for compliance with professional and academic integrity, reliability of scientific results.

Integrative final program learning outcomes, the formation of which is facilitated by the discipline "Phthisiology":

- to carry out professional activity in social interaction, which is based on humanistic and ethical principles;
- apply knowledge of general and professional disciplines in professional activities;
- comply with the norms of sanitary and hygienic regime and safety requirements during professional activities;
- use the results of independent search, analysis and synthesis of information from various sources to solve typical problems of professional activity;
- argue information for decision-making, be responsible for them in standard and non-standard professional situations;
- adhere to the principles of deontology and ethics in professional activities;
- to use skills of oral communication in foreign languages, analyzing texts of a professional direction and to translate foreign language information sources;
- adhere to the norms of communication in professional interaction with colleagues, management, work effectively in a team;
- analyze the information obtained as a result of scientific research, summarize, systematize and use it in professional activities.

Program training results for the discipline "Phthisiology":

PTR-1. Have knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. Be responsible for professional development, the ability to further professional training with a high level of autonomy.

PTR-2. Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care.

PTR-3. Specialized conceptual knowledge, which includes scientific achievements in the field of health and is the basis for research, critical understanding of problems in the field of medicine and related interdisciplinary problems.

PTR-4. To identify the leading clinical symptoms and syndromes according to standard methods, using preliminary data of the patient's history, data of the patient's examination, knowledge about the person, his organs and systems, to establish a preliminary clinical diagnosis of the disease.

PTR-5. Collect complaints, history of life and disease, evaluate the psychomotor and physical development of the patient, the state of organs and systems of the body,

based on the results of laboratory and instrumental studies, evaluate information on the diagnosis, taking into account the patient's age.

PTR-6. Establish a final clinical diagnosis by making an informed decision and analyzing the obtained subjective and objective data of clinical, additional examination, differential diagnosis, observing the relevant ethical and legal norms, under the supervision of a physician-leader in a health care institution.

PTR-7. Assign and analyze additional (mandatory and optional) methods of examination (laboratory, functional and/or instrumental), patients with diseases of organs and body systems for differential diagnosis of diseases.

PTR-8. Determine the main clinical syndrome or what causes the severity of the condition of the victim/victim by making an informed decision and assessing the condition of a person under any circumstances (in a health care institution, outside it), including in an emergency situation and hostilities, in the field, in conditions of lack of information and limited time.

PTR-9. Determine the nature and principles of treatment of patients with tuberculosis (conservative, operative), taking into account the age of the patient, in the conditions of the health care institution, outside it and at the stages of medical evacuation, incl. in the field, based on a preliminary clinical diagnosis, adhering to appropriate ethical and legal standards, by making an informed decision on existing algorithms and standard schemes, if necessary, expand the standard scheme to be able to justify personalized recommendations under the supervision of the doctor-manager in the conditions of the medical institution.

PTR-10. Determine the necessary mode of work, rest and nutrition on the basis of the final clinical diagnosis, observing the relevant ethical and legal norms, by making an informed decision according to existing algorithms and standard schemes.

PTR-14. Identify tactics and provide emergency medical care for medical emergencies in limited time settings in accordance with existing clinical protocols and treatment standards.

PTR-17. Perform medical manipulations in a medical institution, at home or at work on the basis of a preliminary clinical diagnosis and/or indicators of the patient's condition by making an informed decision, observing appropriate ethical and legal standards.

PTR-19. Plan and implement a system of anti-epidemic and preventive measures for the emergence and spread of diseases among the population.

PTR-20. Analyze the epidemiological state and conduct mass and individual, general and local prevention of infectious diseases.

PTR-21. Search for necessary information in professional literature and databases of other sources, analyze, evaluate and apply this information.

PTR-24. Organize the necessary level of individual safety (own and persons cared for) in case of typical dangerous situations in the individual field of activity.

PTR-25. It is clear and unambiguous to convey their own knowledge, conclusions and arguments on health issues and related issues to specialists and non-specialists.

PTR-27. Fluent in the state and English languages, both orally and in writing to discuss professional activities, research and projects.

PTR-29. Plan, organize and conduct activities for the specific prevention of infectious diseases, including in accordance with the National calendar of preventive vaccinations, both mandatory and recommended. Manage vaccine residues, organize additional vaccination campaigns, including immunoprophylaxis activities.

2. Information volume of the academic discipline

1 ECTS credit / 30 hours is allocated for the study of the academic discipline.

Content module1. Management of patients with tuberculosis.

Specific goals:

 identify risk factors for tuberculosis;

 conduct surveys of patients to determine the symptoms that may indicate tuberculosis;

 apply an algorithm for examining patients with symptoms that may indicate tuberculosis at the stage of primary care and develop a clinical route for the patient;

determine the options for tactical actions of the doctor depending on the data of bacterioscopic examination of sputum, X-ray examination and other diagnostic methods;

 interpret the data of microscopic, molecular genetic, bacteriological methods of detection of the causative agent of tuberculosis;

 evaluate the results of basic laboratory, radiological, instrumental methods of diagnosis and tuberculin testing;

 to carry out differential diagnosis of bronchopulmonary, intoxication and radiological syndromes in patients with symptoms that may indicate tuberculosis;

 formulate a diagnosis of tuberculosis in accordance with the current classification;

 organize treatment of tuberculosis under direct supervision;

 to form and maintain the patient's commitment to the treatment of tuberculosis;

 prescribe standardized medical treatment for patients with tuberculosis depending on the category and determine the results of treatment;

 prescribe treatment to patients with chemoresistant tuberculosis;

 diagnose emergencies in patients with tuberculosis and provide them with emergency care;

 carry out chemoprophylaxis of tuberculosis;

 organize administrative events infection control of tuberculosis infection;

 correctly use and select individual respiratory protection.

Theme 1. Management of patients with tuberculosis. Revealing and diagnosing of tuberculosis. Treatment drug regimens for patients with newly diagnosed tuberculosis and re-treatment.

Health standards for tuberculosis. Modern approaches to the revealing/detection and diagnosing of tuberculosis.

Identification of symptoms that may indicate tuberculosis. The route of a patient with a cough at the stage of primary care. The place of laboratory methods in the detection of tuberculosis.

Bacteriological methods for the diagnosing of tuberculosis. The role of rapid methods of molecular genetic diagnosis of tuberculosis, in particular Xpert MTB/RIF technology.

Application of X-ray examination in the diagnosing of tuberculosis. The role of computed tomography and magnetic resonance imaging in the diagnosis and differential diagnosis of pulmonary and extrapulmonary tuberculosis.

The role of instrumental and invasive methods in confirming the diagnosis.

Treatment regimens for patients with newly diagnosed tuberculosis and re-treatment. Treatment under direct supervision and formation of adherence to treatment.

Theme 2. Management of patients with chemoresistant tuberculosis. Treatment regimens of mono-, poly-, multi- and wide drug resistant tuberculosis. Features of management of incurable patients with tuberculosis. Application of palliative methods of treatment. Complications of pulmonary tuberculosis: hemoptysis, hemorrhage, spontaneous pneumothorax.

Determining the risk of multidrug-resistant tuberculosis. Timely establishment of chemoresistance. Compilation of a diagnostic algorithm with the rational use of methods of molecular genetic diagnostics and bacteriological research.

Standard and individualized treatment regimens for mono-, polyresistant, multidrug-resistant, multidrug-resistant tuberculosis (MDR-TB) and tuberculosis with extended resistance (XDR-TB). Diagnosis and management of adverse reactions to treatment.

Surgical treatment of MR-TB. Features of management of incurable patients with tuberculosis. Application of palliative methods of treatment.

Hemoptysis and pulmonary hemorrhage in patients with tuberculosis: pathogenesis, classification, differentiation of bleeding. Types of spontaneous pneumothorax. Algorithms for providing emergency care for complications of tuberculosis.

Theme 3. Prevention of tuberculosis. Infectious control of tuberculosis. Coronavirus disease (COVID-19): clinic, diagnosis, treatment, prevention.

BCG vaccination and revaccination. Chemoprophylaxis of tuberculosis, indications, methods. Sanitary prevention, its tasks. Work in the center of tuberculous infection on prevention of tuberculosis. Infectious control of tuberculous infection.

Etiology, pathogenesis of coronavirus disease. Clinical signs depending on the course of the disease. Diagnostic standards. Risk groups for complications. Treatment

of patients with coronavirus disease in the outpatient and inpatient stages. Management of anti-epidemic measures in the center of SARS-CoV-2 infection.

Theme 4. Differential diagnosis of basal and paramedical processes, pulmonary disseminations, pulmonary infiltrates.

X-ray syndrome of expansion of the shadow of the roots of the lungs and mediastinum. Differential diagnosis of tuberculosis of intrathoracic lymphatic nodes, lymphogranulomatosis, non-Hodgkin's lymphoma, lymphocytic leukemia, sarcoidosis, nonspecific adenopathies, central cancer, aortic aneurysms, tumors of the esophagus, thyroid, mediastinum, thymus hyperplasia.

Radiological dissemination syndrome in the lungs. Differential diagnosis of disseminated tuberculosis, bilateral focal pneumonia, carcinomatosis, pneumoconiosis, sarcoidosis, congestion in the lungs, systemic connective tissue lesions, interstitial lung diseases.

X-ray syndrome of partial or segmental shadow (pulmonary infiltrate). Differential diagnosis of infiltrative pulmonary tuberculosis, pneumonia, pulmonary eosinophilic infiltrate, pulmonary infarction, lung cancer.

Theme 5. Differential diagnosis of spherical formations in the lungs, cavities in the lungs, pleurisy.

X-ray syndrome of spherical shadow in the lungs. Differential diagnosis of pulmonary tuberculoma, peripheral cancer, tumor metastases, benign tumors, filled cysts.

X-ray syndrome of the cavity in the lungs. Differential diagnosis of tuberculous cavity, lung abscess, aspergilloma, cystic hypoplasia, cavity cancer, bronchiectasis.

X-ray syndrome of fluid in the pleural cavity. Differential diagnosis of tuberculous, nonspecific, cancerous pleurisy, hydrothorax in cardiac decompensation, renal failure, pleural mesothelioma.

Theme 6. Extrapulmonary forms of tuberculosis. Tuberculous meningitis. Tuberculosis of the peripheral lymphatic nodes. Bone and joints tuberculosis.

Pathogenesis and pathomorphology of meningeal tuberculosis. Clinic. Features of diagnosis and course of tuberculous meningitis. Spinal puncture and interpretation of cerebrospinal fluid test results. Treatment.

Pathogenesis, pathomorphology, local and general manifestations, clinical forms of uberculosis of peripheral lymphatic node t. Diagnosis. Treatment.

Clinic of tuberculosis of bones and joints. Diagnosis. Treatment.

3. Structure of the academic discipline

TOPIC	Lectures	Practical training	S-Ws
Content module1. Management of patients with tuberculosis.			
Theme 1. Management of patients with tuberculosis. Revealing and diagnosing of tuberculosis. Treatment drug regimens for patients with newly diagnosed tuberculosis and re-treatment.	-	5	-
Theme 2. Management of patients with chemoresistant tuberculosis. Treatment regimens of mono-, poly-, multi- and wide drug resistant tuberculosis. Features of management of incurable patients with tuberculosis. Application of palliative methods of treatment. Complications of pulmonary tuberculosis: hemoptysis, hemorrhage, spontaneous pneumothorax.	-	5	-
Theme 3. Prevention of tuberculosis. Infectious control of tuberculosis. Coronavirus disease (COVID-19): clinic, diagnosis, treatment, prevention.	-	5	-
Theme 4. Differential diagnosis of basal and paramedical processes, pulmonary disseminations, pulmonary infiltrates.	-	-	5
Theme 5. Differential diagnosis of spherical formations in the lungs, cavities in the lungs, pleurisy.	-	-	5
Theme 6. Extrapulmonary forms of tuberculosis. Tuberculous meningitis. Tuberculosis of the peripheral lymphatic nodes. Bone and joints tuberculosis.	-	-	5
Total-60/2 ,loans ECTS	-	15	15
Final control	exam		

4. In accordance with order No. 1053- from 24.03.2023 curriculum lectures are not provided.

5. Thematic plan of practical classes

№	Topics	Hours
1	2	3
1.	Management of patients with tuberculosis. Revealing and diagnosis of tuberculosis. Treatment drug regimens for patients with newly diagnosed tuberculosis and re-treatment.	5
2.	Management of patients with chemoresistant tuberculosis. Treatment regimens of mono-, poly-, multi- and wide drug resistant tuberculosis. Features of management of incurable patients with tuberculosis. Application of palliative methods of treatment. Complications of pulmonary tuberculosis: hemoptysis, hemorrhage, spontaneous pneumothorax.	5
3.	Prevention of tuberculosis. Infectious control of tuberculosis. COVID-19, diagnosing, treatment and prevention.	5
	Total:	15 Hours

6. Thematic plan of out class lessons

№	Topics	Hours	Type of control
1.	Differential diagnosis of basal and paramedical processes, pulmonary disseminations, pulmonary infiltrates.	5	Monitoring on practical classes
2.	Differential diagnosis of spherical formations in the lungs, cavities in the lungs, pleurisy.	5	
3.	Extrapulmonary forms of tuberculosis. Tuberculous meningitis. Tuberculosis of the peripheral lymphatic nodes. Bone and joints tuberculosis.	5	
	Total:	15 Hours	

7. Methods of training

Verbal - explanation, briefing, educational discussion.
Visual - Illustration (tables, X-rays, results of analyzes and other survey methods);
- Demonstration (diagnostic and therapeutic manipulations).
Practical - the formation of skills and abilities of clinical examination of patients, the implementation of the prescribed medical manipulation program, emergency assistance.
Interactive - which involves working in small groups to perform a specific set of tasks; simulation of clinical situations.

8. Organizational structure of training:

Preparatory stage (10-20% of working time): organization of the lesson, setting a training goal, control of the initial level of knowledge.
The main stage (60-90% of working time): the formation of professional skills. Students independently and under the supervision of the teacher carry out the curation of patients: collect history, master the skills of objective examination, interpret radiological and laboratory data, justify the clinical diagnosis, conduct differential diagnosis, prescribe treatment.
The final stage (10-20% of working time): control and correction of the level of professional skills, summing up, homework.

9. Methods of control

The control is carried out by a comprehensive assessment of the theoretical and practical training of the student on the basis of oral questioning, test control, the solution of clinical situational tasks, demonstration of practical skills and abilities.

- Types of control - current and final.
- The form of final control in accordance with the curriculum is an exam
- Criteria for evaluation

Criteria for evaluation

Assessment of the student's oral response			
«Perfect»	«Good»	«Satisfactorily»	«Unsatisfactorily»
The student profoundly and firmly mastered the material; consistently, competently and logically teaches him, closely relates theory with practice, freely copes with issues.	A student knows the material competently and substantially compliant and does not allow material mistakes in answering questions.	The student has knowledge of the main material, but did not learn its details, makes mistakes, violates the sequence in the presentation of the material.	The student does not know part of the software, allows for significant errors, is not sure of the answer.
Assessment of the solution of test tasks			
«Perfect»	«Good»	«Satisfactorily»	«Unsatisfactorily»
100-91%	90-76%	75-51%	50 і менше%
Assessment of the solution of a clinical situational problem			
«Perfect»	«Good»	«Satisfactorily»	«Unsatisfactorily»
Precisely formulated and fully substantiated clinical diagnosis in the patient and put on a treatment plan.	A precisely formulated and partly substantiated clinical diagnosis of the patient, inaccuracies in the preparation of the treatment plan have been made.	There were difficulties in substantiating the clinical diagnosis, drawing up a patient's treatment plan.	No answer to the task is given.
Assessment of the demonstration of practical skills			
«Perfect»	«Good»	«Satisfactorily»	«Unsatisfactorily»
The student has mastered the practical skills provided by the program.	The student performs practical skills, but does not assume fundamental errors.	The student made serious mistakes in the impleme-ntation of practical skills.	The student did not develop practical skills; did not develop the skills provided by the program.

10. Current control is carried out during the training sessions and is aimed at verifying students' learning of the material.

Estimation of the current educational activity. During the assessment of the assimilation of each topic for the current educational activity, the student is given grades for 4-point (national). This takes into account all types of work provided for by the discipline program. The student must receive a mark on each theme for further conversion of grades to scores on a multi-point (200-point) scale.

11. Form of final control of the success of training - exam.

Exam is a form of final control, consisting in assessing the student's assimilation of educational material solely on the basis of the results of performing certain types of work in practical classes. Semester credit for disciplines is held at the end of its study, before the beginning of the examination session.

12. The scheme of accrual and distribution of points that students receive:

For disciplines, the form of final control of which is an exam:
The maximum number of points a student can score for current educational activities in the study of the discipline is 200 points.
The minimum number of points that a student must score for current educational activities in the study of the discipline is 120 points.
The calculation of the number of points is based on the student's grades on a 4-point (national) scale during the study of the discipline, by calculating the arithmetic mean (CA) rounded to two decimal places.
The resulting value is converted into points on a multi-point scale as follows:

$$x = \frac{\text{CA} \times 200}{5}$$

Independent work of students is evaluated during the current control of the topic in the corresponding lesson. The assimilation of topics that are submitted only to independent work is controlled during the final control.

The scores of disciplines are independently converted into both the ECTS and 4-point scale. The ECTS scores on the 4-point scale are not converted and vice versa. Points of students studying in one specialty, taking into account the number of points scored from the discipline, are ranked on the ECTS scale as follows:

Assessment of ECTS	The statistical indicator
A	**The best 10% of students**
B	**The next 25% of students**
C	**The next 30% of students**
D	**The next 25% of students**
E	**The last 10% of students**

Ranking with the assignment of grades "A", "B", "C", "D", "E" is carried out for students of this course who study in one specialty and have successfully completed the study of the discipline. Students who received FX, F ("2") grades did not are included in the list of ranked students. Students with an FX score after retaking automatically receive an "E" score.

Points in the discipline for students who have successfully completed the program are converted into a traditional 4-point scale according to the absolute criteria that are given in the table below:

Score points	Score on the 4- score
From 170 to 200 points	5
From 140 to 169 points	4
From 139 points to the minimum number of points a student should get	3
Below is the minimum number of points that the student should collect	2

The ECTS mark on a traditional scale is not converted because the ECTS scale and the four-point scale are independent.

Objectivity of assessment of students' educational activity is checked by statistical methods (correlation coefficient between ECTS assessment and national scale assessment).

13. Methodical support: planes, methodological recommendations of practical lessons, tasks for self-work, questions, test tasks, clinical tasks for the current and final control of students' knowledge and skills.

14. Recommended Books

Basic literature:

1. Phthysiology. nats textbook / edited by V.I. Petrenko,. - Kyiv .: VVV "Medicine", 2015. - 472 p.
2. Prevention of tuberculosis. A manual for students and doctors - interns of the VNMZ IV level of accreditation and doctors / V.I. Petrenko, M.G. Dolinskaya, A.V. Alexandrin, V.V. Petrenko - K.: "Ridzhi" LLC, 2017. - 88 p.
3. Feschenko Yu.I. Organization of control of chemo-resistant tuberculosis. Production edition. - K .: Health, 2013. - 704 p.
4. Petrenko V.I. Phthysiology: Textbook. K .: Medicine, 2008. - 488 p.
5. Tuberculosis, HIV/AIDS. V.F. Moskalenko, R.G. Protsyuk, V.I. Petrenko et al. Medicine, Kyiv-2010, p.
6. Fundamentals of phthisiopathology of extrapulmonary localization. Textbook / Ed. Ilynitsky I.G., Kostyk A.P., Bilozir L.I. - Lviv 2011. - 511 pp.
7. Pulmonology and phthisiology: a textbook in 2 volumes / Ed. Yu.I.Feshchenko, V.P. Melnyk, I.G.Ilnitsky. - Kyiv, Lviv: Atlas, 2009 - 1336 p.
8. Phthisiology. Textbook/Ed. Academician A.Ya. Tsyganenko, Prof. S.I. Zaitseva. - H.: Fact, 2004.- 390 p.
9. Order of the Ministry of Health of Ukraine of 19.01.2023. No. 102 "Standards of medical care" Tuberculosis".
10. Order of the Ministry of Health of Ukraine No. 358 dated 22.02. 2222 Protocol "Provision of medical care for the treatment of coronavirus disease (COVID-19)".

Supporting literature:

1. Prevention of tuberculosis: a textbook for students, interns and doctors/V.I. Petrenko, M.G. Dolinskaya, A.V. Alexandrin, V.V. Petrenko. - Kiïv:2Print, 2017. – 88 p.
2. Diseases of the respiratory system. Reference manual/Yu.I. Feshchenko, V.M. Melnik, I.G. Ilnitsky. - Kyiv - Lviv: Atlas, 2008. – 497 p.
3. Feshchenko Yu.I. Organization of chemoresistant tuberculosis control. Production edition. - Kyiv: Health, 2013. - 704 p.

Information resources

1. State institution "Ukrainian Center for the control of social diseases of the Ministry of Health of Ukraine": http://ucdc.gov.ua
2. The site of the National Institute of Phthisiology and Pulmonology named after FG Yanovsky: http://www.ifp.kiev.ua/doc
3. Tuberculosis, pulmonary diseases, HIV infection. Ukrainian Scientific and Practical Journal www.tubvil.com.ua
4. USAID "Strengthening TB Control in Ukraine" Website: http://www.stbcu.com.ua