



MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN  
FEDERATION  
Federal state autonomous educational institution  
of higher education  
«Far Eastern Federal University»  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

«AGREED»

Head of education program  
«General medicine»

Khotimchenko Yu.S.

(signature)

(Full name)

«09» of July 2019

«APPROVED»

Director of the Department of Clinical  
Medicine

Geltser B.I.

(signature)

(Full name)

«09» of July 2019



**WORKING PROGRAM OF ACADEMIC DISCIPLINE (WPAD)**

«Phthysiology»

Education program

Specialty 31.05.01 «General medicine»

**Form of study: full time**

year 6, semester C  
lectures 17 hours  
practical classes 34 hours  
laboratory works not provided  
total amount of in-classroom works 51 hours  
independent self-work 93 hours  
control works ()  
pass-fail exam year 6, semester C  
exam is not provided

The working program is drawn up in accordance with the requirements of the Federal state educational standard of higher education (level of training), approved by the order of the Ministry of education and science of the Russian Federation from 09.02.2016 № 95.

The working program of the discipline was discussed at the meeting of the Department of fundamental and clinical medicine. Protocol No. 8, 09 of July 2019

Authors: prof. Beniova S.N.. PhD Korableva E.V.

## **Annotation**

Discipline "Phthisiology" is purposed for students enrolled in the educational program 31.05.01 "General medicine".

Discipline is implemented in the 6 year as a basic discipline.

Development of the working program of the discipline was made in accordance to the Federal state educational standard of higher education in the specialty 31.05.01 "Medicine" and curriculum of the student trainings.

The total complexity of the discipline is 108 hours, 3 credits.

The course program is based on the basic knowledge gained by students:

The total complexity of the discipline is 108 hours, 3 credits.

The course program is based on the basic knowledge gained by students:

- the ability and willingness to implement the ethical and deontological principles in professional activities (GPC – 4)
- the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems (GPC – 8)
- the capacity for the assessment of morphological and physiological states and pathological processes in the human body for solving professional tasks (GPC – 9)
- the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)
- the readiness for educational activities to eliminate the risk factors and promote healthy lifestyles (PC – 16)

**The goal of the discipline** is the formation of professional competences in the field of knowledge in general and private infectiology, the ability to apply this knowledge for the diagnosis, treatment and prevention of tuberculosis.

**The aim of the discipline** is to give students the theoretical foundations of knowledge in the field of Phthisiology, such as:

- the implementation of dispensary observation of patients;
- diagnosis of tuberculosis based on clinical and laboratory and instrumental methods of research;
- diagnosis of emergency conditions in Phthisiology;
- treatment of Phthisiology using therapeutic methods;
- rendering medical assistance in case of emergency conditions that developed in Phthisiology;
- carrying out medical-evacuation measures and rendering medical assistance to the population in extreme conditions of epidemics.
- carrying out rehabilitation activities among the population who have had an tuberculosis;
- maintenance of accounting and reporting medical records filled in for an infectious patient;
- analysis of scientific literature and official statistical reviews;
- preparation of essays on modern scientific problems of infectious diseases.

On completion of the course following general professional and special professional competences are expected be formed:

<b>Competence code and formulation</b>	<b>Stages of forming the competence</b>	
CPC-8  the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems	Knows	the classification and main characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs, side effects; general principles of receptor design and formulation of prescription medicinal formulations.
	Is able to	to analyze the effect of drugs on the basis of their pharmacological properties and the possibility of their using for therapeutic treatment; write prescriptions for medicines, use different medicines, apply basic antibacterial, antiviral and biological preparations; evaluate the possible manifestations of overdose of drugs and how to eliminate them; substantiate the principles of pathogenetic therapy of the most common diseases.
	Possesses	skills in the use of drugs in the treatment,

		rehabilitation and prevention of various diseases and pathological conditions.
PC-5 the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases	Knows	<p>the etiology, diagnosis, treatment and prevention of infectious diseases;</p> <p>the clinical signs, features of the course and possible complications of infectious diseases occurring in typical form;</p> <p>modern methods of clinical instrumental diagnosis of patients infection profile;</p> <p>features of the collection of pathological materials; precautions; special clothing;</p> <p>basic principles of diagnosis, treatment and rehabilitation of infectious diseases, indications for hospitalization with infectious diseases;</p> <p>principles of follow-up observation, rehabilitation of infectious patients;</p> <p>structure of infectious and phthisiological services, principles of organization, organization and mode of operation of infectious departments</p> <p>implementation of specific and nonspecific prevention of infectious diseases.</p>
	Is able to	<p>participate in the organization and provision of medical - preventive and sanitary anti-epidemic, prophylactic and rehabilitation assistance to the population with infectious diseases;</p> <p>interpret the results of the survey, make a preliminary diagnosis, outline the scope of additional studies to clarify the diagnosis;</p> <p>formulate a clinical diagnosis;</p> <p>develop a treatment plan taking into account the course of the disease, select and appoint drug therapy, use methods of non-drug treatment, to conduct rehabilitation measures.</p>
	Possesses	<p>the interpretation of the results of laboratory, instrumental methods of diagnosis with infectious disease;</p> <p>algorithm for making a preliminary diagnosis with the subsequent direction to additional examination and to specialist doctors;</p> <p>an algorithm for making a comprehensive clinical diagnosis of patients; the algorithm for the implementation of the main medical diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions for infectious diseases.</p>

<p>PC-6 the ability of determining the patient's basic pathological conditions , symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health , the 10th review.</p>	<p>Knows</p>	<p>the clinical signs, features of the course and possible complications of the most common infectious diseases; modern classification of infectious diseases; etiology, epidemiology, pathogenesis of tuberculosis; -clinical picture, features of the course and possible complications of tuberculosis, occurring in typical form in different age groups; criteria for the diagnosis of infectious diseases.</p>
	<p>Is able to</p>	<p>determine the patients basic pathological conditions, symptoms, syndromes, diseases, nosologic forms; formulate a topical diagnosis; to make preliminary and final diagnoses with a reflection of the etiology, course, nature and degree of dysfunction; outline the scope of additional studies to clarify the diagnosis and obtain a reliable result;</p>
	<p>Possesses</p>	<p>basic skills of algorithm of the developed clinical diagnosis; the interpretation of the results of laboratory and instrumental diagnostic methods; algorithm for making a preliminary diagnosis to a patient with suspected tuberculosis.</p>
<p>PC-8 the ability to determining the tactics of patient surveillance with different nosological entities</p>	<p>Knows</p>	<p>methods of treating patients with infectious diseases; the mechanism of action of the main groups of drugs; medical indications and contraindications to their use; complications caused by their use; the basic principles of diagnosis, treatment and rehabilitation of patients with tuberculosis, indications for hospitalization; rules for the collection of pathological materials from the patient; implementation of specific and nonspecific prevention of tuberculosis% determine indications for outpatient treatment and hospitalization of a patient with tuberculosis.</p>
	<p>Is able to</p>	<p>develop a plan of therapeutic measures for various infectious diseases; select an individual type of care for the patient in accordance with the situation: primary care, ambulance, hospitalization; formulate indications for the chosen method of treatment, taking into account etiotropic and pathogenetic means, to justify pharmacotherapy in a particular patient with the main pathological syndromes, to determine the route of administration, the regimen and dose of drugs carry out the appointment of drug therapy for children, taking into account the clinical picture of</p>

		the disease.
	Possesses	the tactics of managing patients with various nosological forms.

## **I. STRUCTURE AND CONTENT OF THE THEORETICAL PART OF THE COURSE (17 hours)**

### **Semester 12**

#### **Module 1 Basic issues of phthisiology**

##### **The theme 1. Introduction to the clinic of tuberculosis (2 hours)**

The current state of the problem of infectious diseases and tuberculosis. Properties of pathogens of infectious diseases and tuberculosis. The incidence of infectious diseases and tuberculosis in the world and the Russian Federation (Rosпотребнадзор and WHO).

##### **The theme 2. Principles and methods for the diagnosis of tuberculosis. (2 hours)**

Methodological basis of diagnosis. Clinical, epidemiological, instrumental, laboratory (microbiological, virological, etc.) diagnostic methods and their clinical interpretation.

#### **Module 2 Clinical phthisiology**

##### **The theme 3-4. Clinical forms of tuberculosis (4 hours)**

Primary period of tuberculosis infection. Disseminated tuberculosis. Forms of secondary tuberculosis of the respiratory system: focal, infiltrative, tuberculoma. Forms of secondary tuberculosis of the respiratory system: cavernous, fibrous-cavernous, cirrhotic. Caseous pneumonia. Maxillofacial tuberculosis. Clinical manifestations of diagnosis, features of the course.

##### **The theme 5. Principles of treating patients with tuberculosis. (2 hours)**

The basic principles of complex treatment of infectious patients. Complications associated with treatment. Toxic-allergic reactions. Serum

sickness. Dysbiosis. The basic principles of complex treatment of patients with tuberculosis. Plasmapheresis. Hyperbaric oxygenation. Laser therapy

**The theme 6. Complications of tuberculosis (2 hours)**

Complications of respiratory tuberculosis: clinic, diagnosis, treatment; prevention. Extrapulmonary complications of tuberculosis: clinic, diagnosis, treatment; prevention.

**The theme 7. Prevention and detection of tuberculosis (2 hours).**

Emergency conditions for respiratory tuberculosis. The organization of tuberculosis care. Hygiene-dietary regime for tuberculosis. Controlled chemotherapy for tuberculosis.

**The theme 8. Providing tuberculosis care (3 hours).**

Emergency conditions for respiratory tuberculosis. The organization of tuberculosis care. Hygiene-diet regimen for tuberculosis. Controlled chemotherapy for tuberculosis.

**II. THE STRUCTURE AND CONTENT OF THE PRACTICAL PART  
OF THE COURSE (34 hours)**

**Semester 12**

**Topic 1. Introduction to the clinic of tuberculosis (4 hours)**

The current state of the problem of infectious diseases and tuberculosis. Properties of pathogens of infectious diseases and tuberculosis. The incidence of infectious diseases and tuberculosis in the world and the Russian Federation (Rosпотребнадзор and WHO). Sanitary and epidemiological regime in the clinic of tuberculosis. Fundamentals of deontology in phthisiology. Tuberculosis dispensary, tuberculosis cabinet, tasks and organization of work. Timely and early detection of tuberculosis.

**Topic 2. Principles and methods for the diagnosis of tuberculosis (4 hours).**

Etiology: the main properties of the pathogen, its antigenic structure. Epidemiology: sources of infection, infection mechanisms, pathways and transmission factors. The value of chronic carrier state. Epidemics and sporadic cases. Pathogenesis and pathological anatomy: introduction of the pathogen and reproduction in lymph nodes, bacteremia and toxemia. Pathogenesis of recurrence and complications. The cyclical course of typhoid fever, the clinical characteristics of the stages of the disease. Features of the current course of typhoid fever. The clinical picture of complications and relapses. Diagnostics. Clinical and epidemiological criteria. Early diagnosis. Laboratory diagnosis: bacteriological and serological methods. Differential diagnosis with febrile conditions **in different geographic regions. Treatment. Mode, care, diet therapy.**

#### **Topic 3-4. Clinical forms of tuberculosis. (8 hours).**

Principles for constructing a classification of tuberculosis. Clinical and oxygen morphological nosological units of tuberculosis. Primary tuberculosis. Features of immunogenesis, morphology and clinic. "Masks" of tuberculosis. Tuberculous intoxication, as a nosological unit. Primary tuberculosis complex (PTC). Complicated and uncomplicated version of the flow. Differential diagnosis of the stages of PTK with nonspecific pneumonia and pneumonitis. Features of the clinic and diagnosis of "small" forms of bronchonodulitis. Differential diagnostic algorithm of tuberculosis guilitis and non-specific bacterial-viral lesions. Infiltrative and tumorous form of tuberculosis VSLU, especially the course and diagnosis. Sarcoidosis. Differential diagnosis of intrathoracic nodulopathy in tuberculosis. Chronically current primary tuberculosis. Disseminated tuberculosis. Acute (miliary) disseminated tuberculosis, its variants. Features of diagnosis, clinic, treatment and prognosis. Clinical X-ray morphologic variants of acute, subacute and chronically current DTL. DTL, as reactive histiocytosis. Outcomes of hematogenous generalization. Differential diagnostic algorithm for DTL, its features in young and old. CNS



tuberculosis. Diagnosis, prognosis of the course of the disease, depending on the timeliness of diagnosis and the start of treatment. Differential diagnosis of tuberculosis of the central nervous system. Extrapulmonary tuberculosis. Focal (OTL) and infiltrative pulmonary tuberculosis (ITL). Clinical X-ray options. Features of the flow. Differential diagnosis of OTL and ITT with non-specific lesions of the lungs. Clinical X-ray variants of caseous pneumonia (KP). Differential diagnosis of variants of specific and non-specific destructive pneumonitis. Tuberculoma of the lungs. Differential diagnosis of tuberculosis. Destructive form of pulmonary tuberculosis. Differential diagnosis.

#### **Topic 5. Principles of treating patients with tuberculosis. (4 hours)**

The basic principles of complex treatment of patients with tuberculosis. Etiotropic and pathogenetic therapy. Side effects of antituberculous chemotherapy, their elimination. Rationale for an outpatient regimen. Complications associated with treatment.

#### **Topic 6. Complications of tuberculosis (4 hours)**

Complications of respiratory tuberculosis: clinic, diagnosis, treatment; prevention. Clinic, diagnosis and emergency care for pulmonary hemorrhages and spontaneous pneumothorax. Extrapulmonary complications of tuberculosis: clinic, diagnosis, treatment; prevention.

#### **Topic 7. Prevention and detection of tuberculosis. (4 hours)**

Specific susceptibility for tuberculosis, mass tuberculin diagnosis. Methods and techniques of testing the Mantoux test, diaskin test, evaluation of their results. Methods of tuberculin diagnosis. Differential diagnosis of post-vaccination and post-infectious sensitivity. Tuberculosis vaccination of BCG and BCG-M, revaccination, contraindications, possible complications, management tactics.

#### **Topic 8. Providing tuberculosis care (4 hours)**

The organization of tuberculosis care. Tuberculosis dispensary, tuberculosis cabinet, tasks and organization of work. Timely and early detection of

tuberculosis. Work in the clinic. Foci of tuberculosis infection, mapping of the lesion and a plan of measures for its recovery. Contingent groups The organization of observation, tactics of reference. Measures for the prevention of tuberculosis among contingents in contact with a patient with tuberculosis, including nosocomial infection. Tuberculosis work in hospitals. Formation of risk groups for pulmonary and extrapulmonary tuberculosis.

**Topic 9. The final lesson. Preparation for offset .(2 hours)**

**III. SCHOLASTIC-METHODICAL PROVISIONING FOR THE STUDENTS' INDIVIDUAL WORK**

Scholastic-methodical provisioning for the students' individual work in the discipline Phthisiology presented in Supplement 1 and includes:

- schedule for performing individual work in the discipline, including the approximate time to allocate on each task;
- description of the tasks for individual work of students and methodical recommendations for their completion;
- requirements for submission and registration of results of individual work.

**IV. MONITORING THE ACHIEVEMENT OF THE COURSE OBJECTIVES**

Competence and its code		Stages of competence formation				
No.	Controlled sections / topics of disciplines	Codes and stages of the formation of competencies	Evaluation tools			
			Current control	Intermediate certification / exam		
1	<b>Module 1</b> Basic issues of phthisiology <b>Module 2</b> Clinical phthisiology	the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems (GPC	Knows	EO-1 Interview	Questions of final control A semester - 1-36	
			Is able to	PW-1 Test	PW-1 Test	

		- 8)	Possesses	EO-3 Report	EO2 Colloquium
<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	Knows	EO-1 Interview	Questions of final control A semester - 1-38	
		Is able to	PW-1 Test	PW-1 Test	
		Possesses	EO-3 Report	EO2 Colloquium	
<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the ability of determining the patient's basic pathological conditions, symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health, the 10th review. (PC – 6)	Knows	EO-1 Interview	Questions of final control A semester - 36-110	
		Is able to	PW-1 Test	PW-1 Test	
		Possesses	EO-3 Report	EO2 Colloquium	
<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows	EO-1 Interview	Questions of final control A semester - 1-38	
		Is able to	PW-1 Test	PW-1 Test	
		Possesses	EO-3 Report	EO2 Colloquium	

The model tests, methodical materials prescribing procedures for evaluation of knowledge, skills and/or practical experience, as well as criteria and indicators necessary to assess knowledge, abilities, skills and the defined stages of forming competencies in the process of acquiring educational program, are presented in Addition 2.

## V. LIST OF EDUCATIONAL LITERATURE AND INFORMATIONAL-METHODICAL REQUIREMENTS FOR THE DISCIPLINE

### Primary

1. Practical and Laboratory Diagnosis of Tuberculosis [Electronic resource] / Guadalupe García-Elorriaga, Guillermo del Rey-Pineda, Springer International Publishing, 2015

<http://link.springer.com/openurl?genre=book&isbn=978-3-319-20478-9>

2. Tuberculosis in Adults and Children [Electronic resource] / Dorothee Heemskerk, Maxine Caws, Ben Marais, Jeremy Farrar, Springer International Publishing, 2015

<http://link.springer.com/openurl?genre=book&isbn=978-3-319-19132-4>

### Additional

1. An Introduction to Mathematical Epidemiology [Electronic resource] / Maia Martcheva, Springer US, 2015

<http://link.springer.com/openurl?genre=book&isbn=978-1-4899-7612-3>

2. Biostatistics and Epidemiology [Electronic resource] / Sylvia Wassertheil-Smoller, Jordan Smoller, Springer New York, 2015

<http://link.springer.com/openurl?genre=book&isbn=978-1-4939-2134-8>

3. Pediatric Infectious Disease [Electronic resource] / Christine M. Houser, Springer New York, 2015

<http://link.springer.com/openurl?genre=book&isbn=978-1-4939-1329-9>

4. Handbook of Epidemiology [Electronic resource] / Wolfgang Ahrens, Iris Pigeot, Springer New York, 2014

<http://link.springer.com/openurl?genre=book&isbn=978-0-387-09834-0>

### The list of resources of the information-telecommunication network “Internet”

1. Scientific electronic library: <http://www.elibrary.ru>

2. Central Scientific Medical Library: <http://www.scsml.rssi.ru>
3. Medical Internet Resources: <http://www.it2med.ru/mir.html>
4. Publishing House "Medicine": <http://www.medlit.ru>
5. Scientific Electronic Library: <http://elibrary.ru/>

## **LIST OF INFORMATION TECHNOLOGIES AND SOFTWARE**

<b>The location of the computer equipment on which the software is installed, the number of jobs</b>	<b>List of licensed software</b>
<p>Multimedia auditorium Vladivostok Russian island, Ayaks 10, building 25.1, RM. M723 Area of 80.3 m2 (Room for independent work)</p>	<p>Windows Seven enterprice SP3x64 Operating System Microsoft Office Professional Plus 2010 office suite that includes software for working with various types of documents (texts, spreadsheets, databases, etc.); 7Zip 9.20 - free file archiver with a high degree of data compression; ABBYY FineReader 11 - a program for optical character recognition; Adobe Acrobat XI Pro 11.0.00 - software package for creating and viewing electronic publications in PDF; WinDjView 2.0.2 - a program for recognizing and viewing files with the same format DJV and DjVu.</p>

In order to provide special conditions for the education of persons with disabilities all buildings are equipped with ramps, elevators, lifts, specialized places equipped with toilet rooms, information and navigation support signs.

## **VI. METHODOLOGICAL RECOMMENDATIONS ON THE COMPLETING THE DISCIPLINE**

The main goal to be attained on completion of the discipline is the formation and development in the students the ability to interpret data of laboratory, clinical and functional diagnostics for the solution of professional tasks. At the end of the course the student should have the skills of diagnosis of tuberculosis.

Performing by students of extracurricular individual work in extracurricular time, both under the guidance of a teacher and without his direct participation is important in order to achieve this goal.

Students are encouraged to systematically study the teaching material using textbooks, texts and methodical writings in accordance with the study plan, and to perform all tasks in a timely manner, which is especially important when using a grade-rating system for assessing students' knowledge.

The goal of students' individual work is to master fundamental knowledge, professional skills and experiences of their specialty, experience of creative scientific research. Individual work of students promotes the development of autonomy, responsibility and organization, creative approach to solving the problems of the educational and professional level, deepen and broaden knowledge, formation of interest to cognitive activity, mastering the techniques of learning, the development of cognitive abilities.

Individual work of students for the discipline is mandatory for each student, its volume is determined by the federal educational standard and curriculum. It is necessary at the very beginning of the course to carefully plan the time allocated for individual work with the sources and literature on the subject.

Individual work includes:

- a) reading textbooks, lectures, methodical recommendations, scientific articles
- b) reading and analyzing literature passages of journalistic nature;
- c) reading and analysis of literary passages of scientific nature;
- g) working with resources posted on the Internet.

The purpose of this types of work is to instill an interest in reading and to teach students to overcome difficulties in reading, extract the necessary information from the text to teach them to use Russian and International sources for self-education and improve their professional skills.

## LOGISTICS DISCIPLINE

For practical work, as well as for the organization of independent work, students have access to the following laboratory equipment and specialized classrooms that meet the current sanitary and fire regulations, as well as safety requirements during training and scientific and industrial works:

<b>Name of the equipped rooms and rooms for independent work</b>	<b>List of main equipment</b>
The computer class of the School of biomedical AUD. M723, 15 work places	<p>Screen, electrically 236*147 cm to trim the screen; Projector DLP technology, 3000 ANSI LM, WXGA with 1280x800 resolution, 2000:1 Mitsubishi EW330U; Subsystem of specialized mounting equipment course-2007 Tuarex; Subsystem of videocommunity: matrix switch DVI and DXP 44 DVI Pro advertising; extension cable DVI over twisted pair DVI 201 TX/RX advertising; Subsystem of audiocommentary and sound; speaker system for ceiling si 3ct LP Extron on from; digital audio processor DMP 44 LC the Extron; the extension for the controller control IPL T CR48; wireless LAN for students is provided with a system based on 802.11 a/b/g/N 2x2 MIMO(2SS) access points.</p> <p>Monoblock HP Loope 400 all-in-one 19.5 in (1600x900), core i3-4150t, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, and a DVD+ / -RW, GigEth, Wi-Fi and BT, the USB port of roses/MSE, Win7Pro (64-bit)+Win8.1Pro(64-bit), 1-1-1 Wty</p>
\Multimedia audience	<p>Monoblock Lenovo C360G-i34164G500UDK; projection Screen Projecta Elpro Electrol, 300x173 cm; Multimedia projector, Mitsubishi FD630U, 4000 ANSI Lumen 1920 x 1080; Flush interface with automatic retracting cables TLS TAM 201 Stan; Avervision CP355AF; lavalier Microphone system UHF band Sennheiser EW 122 G3 composed of a wireless microphone and receiver; Codec of videoconferencing LifeSizeExpress 220 - Codeconly - Non-AES; Network camera Multipix MP-HD718; Two LCD panel, 47", Full HD, LG M4716CCBA; Subsystem of audiocommentary and sound reinforcement; centralized uninterrupted power supply</p>
Reading rooms of the Scientific library of the University open access Fund (building a - 10)	<p>Monoblock HP Loope 400 All-in-One 19.5 in (1600x900), Core i3-4150T, 4GB DDR3-1600 (1x4GB), 1TB HDD 7200 SATA, DVD+/-RW,GigEth,wifi,BT,usb kbd/mse,Win7Pro (64-bit)+Win8.1Pro(64-bit),1-1-1 Wty Speed Internet access 500 Mbps. Jobs for people with disabilities equipped with displays and Braille printers.; equipped with: portable reading devices flatbed texts, scanning and reading machines videovelocitly with adjustable color spectrums; increasing electronic loops and</p>

	ultrasonic marker
Accreditation-simulation center of the school of Biomedicine	<p>Adult model for demonstration and testing of foreign body removal (reception of Heimlich) (2 pcs.)</p> <p>Schiller Fred defibrillator mod. Easy trainer with accessories (1 pc.)</p> <p>Adult simulator with electronic control, training, computerized (1 pc.)</p> <p>AED educational defibrillator (1 pc.)</p> <p>Phantom of the respiratory system, NMS and defibrillation (1 pc.)</p> <p>Dummy for resuscitation and patient care (1 pc.)</p> <p>Pulse Oximeter (1 pc.)</p> <p>Immobilization spinal immobilization shield YXH-1A6A complete with immobilization folding head retainer (1 pc.)</p> <p>Tire - collar for adults SHTIVV-01</p> <p>Stretcher longitudinal-transverse folding NPPS-MM (2 pcs.)</p> <p>Set of tires for transport ladder KShTL-MP-01 Medical stretchers (1 pc.)</p> <p>Protractor medical universal</p>





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**SCHOOL OF BIOMEDICINE**

**TRAINING AND METHODOLOGICAL SUPPORT**

**INDEPENDENT WORK OF TRAINEES**

**Phthisiology**

Educational program

Preparation for 31.05.01. General Medicine

**Form of training full-time**

**Vladivostok**

**2016**

**The schedule execution of independent work on discipline  
« Phthisiology»  
(93 hours)**

№	Date / deadlines	Type of independent work	Estimated time to complete rules	Form of control
<b>Semester 9</b>				
	1st-6th Week	Preparing of abstract	10 h.	EP—3 Report
	7th-16th Week	Submission of presentations on the theme of the abstract	10 h.	EP—3 Report, presentation
	2th-16th Week	The solution proposed is x-ray situational and situational tasks in class	30 h.	PT-1 interview
	2th-16th Week	Working with a computer in the classroom	23 h.	TM
	17th-18th Week	Preparing to offset	20 h.	PT-2 colloquium

**Guidelines for writing and design of the abstract**

Abstract - the creative activity of the student, which reproduces in its structure research activities to solve theoretical and applied problems in a particular branch of scientific knowledge. By virtue of this course work is an essential component of the educational process in higher education.

The abstract, being a model of scientific research, is an independent work in which a student solves a problem of a theoretical or practical nature, applying the scientific principles and methods of a given branch of scientific knowledge. The result of this scientific search can have not only subjective, but also objective scientific novelty, and therefore can be presented for discussion by the scientific community in the form of a scientific report or a message at a scientific-practical conference, as well as a scientific article.

The abstract implies the acquisition of skills for building business cooperation based on the ethical standards of scientific activity. Purposefulness,

initiative, disinterested cognitive interest, responsibility for the results of their actions, conscientiousness, competence - personality traits that characterize the subject of research activities corresponding to the ideals and norms of modern science.

The abstract is an independent educational and research activity of the student. The teacher assists in a consultative manner and assesses the process and the results of the activity. He provides an approximate topic of abstract work, specifies the problem and topic of research with the intern, helps to plan and organize research activities, assigns time and a minimum number of consultations.

The teacher accepts the text of the abstract for verification at least ten days before the defense.

Traditionally there was a certain structure of the abstract, the main elements of which in order of their location are the following:

1. Title page.
2. The task.
3. Table of Contents
4. List of symbols, symbols and terms (if necessary).
5. Introduction.
6. The main part.
7. Conclusion.
8. Bibliographic list.
9. Applications.

The title page lists: educational institution, graduating department, author, teacher, research topic, place and year of the essay.

The title of the abstract should be as short as possible and fully consistent with its content.

The table of contents (content) reflects the names of the structural parts of the abstract and the pages on which they are located. The table of contents should be placed at the beginning of work on one page.

The presence of a detailed introduction - a mandatory requirement for the abstract. Despite the small volume of this structural part, its writing causes considerable difficulties. However, it is a qualitatively executed introduction that is the key to understanding the entire work, which testifies to the professionalism of the author.

Thus, the introduction is a very crucial part of the essay. The introduction should start with a justification of the relevance of the chosen topic. As applied to the abstract, the concept of "relevance" has one feature. From how the author of the essay can choose a topic and how correctly he understands and evaluates this topic from the point of view of modernity and social significance, characterizes his scientific maturity and professional preparedness.

In addition, in the introduction it is necessary to isolate the methodological basis of the abstract, to name the authors, whose works constituted the theoretical basis of the study. A review of the literature on the topic should show the author's thorough acquaintance with special literature, his ability to systematize sources, critically examine them, highlight the essential, determine the most important in the current state of knowledge of the topic.

The introduction reflects the importance and relevance of the chosen topic, defines the object and subject, purpose and objectives, and the chronological framework of the study.

The introduction ends with a presentation of general conclusions about the scientific and practical significance of the topic, the degree of its knowledge and sources, and the hypothesis being put forward.

The main part describes the essence of the problem, reveals the topic, determines the author's position, factual material is given as an argument and for illustrations of put forward provisions. The author must demonstrate the

ability to consistently present the material while analyzing it simultaneously. Preference is given to the main facts, rather than small details.

The abstract ends with the final part, which is called "conclusion". Like any conclusion, this part of the abstract serves as a conclusion, due to the logic of the study, which is a form of synthesis accumulated in the main part of scientific information. This synthesis is a consistent, coherent presentation of the results obtained and their relation to a common goal and specific tasks set and formulated in the introduction. It is here that contains the so-called "output" knowledge, which is new in relation to the original knowledge. The conclusion may include suggestions of a practical nature, thereby increasing the value of theoretical materials.

So, in the conclusion of the abstract should be: a) presents the conclusions of the study; b) theoretical and practical significance, novelty of the abstract; c) indicated the possibility of applying the results of the study.

After the conclusion it is accepted to place the bibliographic list of the used literature. This list is one of the essential parts of the abstract and reflects the independent creative work of the author of the abstract.

The list of sources used is placed at the end of the work. It is made or in alphabetical order (by the name of the author or the name of the book), or in the order in which the references appear in the text of the written work. In all cases, the full title of the work, the names of the authors or the editor of the publication are indicated, if a group of authors participated in writing the book, data on the number of volumes, the name of the city and publisher in which the work was published, year of publication, number of pages.

#### Methodical recommendations for the preparation of presentations

For the preparation of the presentation it is recommended to use: PowerPoint, MS Word, Acrobat Reader, LaTeX-bev package. The simplest program for creating presentations is Microsoft PowerPoint. To prepare a

presentation, it is necessary to process the information collected while writing the essay.

The sequence of preparation of the presentation:

1. Clearly state the purpose of the presentation.
2. Determine what the presentation format will be: live presentation (then how long it will be) or e-mail (what will be the context of the presentation).
3. Select the entire content of the presentation and build a logical chain of presentation.
4. Identify key points in the content of the text and highlight them.
5. Determine the types of visualization (pictures) to display them on slides in accordance with the logic, purpose and specificity of the material.
6. Choose the design and format the slides (the number of pictures and text, their location, color and size).
7. Check the visual perception of the presentation.

The types of visualization include illustrations, images, charts, tables. The illustration is a representation of a real-life visual. The images - as opposed to illustrations - are a metaphor. Their purpose is to cause an emotion and create an attitude towards it, to influence the audience. With the help of well-designed and presented images, information can remain permanently in a person's memory. Chart - visualization of quantitative and qualitative relationships. They are used for convincing data demonstration, for spatial thinking in addition to the logical one. Table - specific, visual and accurate data display. Its main purpose is to structure information, which sometimes facilitates the perception of data by the audience.

Practical tips on preparing a presentation

- printed text + slides + handouts are prepared separately;
- slides - a visual presentation of information that should contain a minimum of text, a maximum of images that carry a meaning, to look visually and simply;

- textual content of the presentation - oral speech or reading, which should include arguments, facts, evidence and emotions;
- recommended number of slides 17-22;
- mandatory information for the presentation: the subject, surname and initials of the speaker; message plan; brief conclusions from all that has been said; list of sources used;
- handout - should provide the same depth and coverage as the live performance: people trust more what they can carry with them than disappear images, words and slides are forgotten, and handouts remain a constant tangible reminder; handouts are important to distribute at the end of the presentation; Handouts should be different from slides, should be more informative.

### **Criteria for evaluation of the abstract.**

The stated understanding of the abstract as a holistic copyright text defines the criteria for its evaluation: the novelty of the text; the validity of the choice of source; the degree of disclosure of the essence of the issue; compliance with the requirements for registration.

The novelty of the text: a) the relevance of the research topic; b) novelty and independence in the formulation of the problem, the formulation of a new aspect of the well-known problem in the establishment of new connections (interdisciplinary, intra-subject, integration); c) the ability to work with research, critical literature, systematize and structure the material; d) the appearance of the author's position, independence of assessments and judgments; d) stylistic unity of the text, the unity of genre features.

The degree of disclosure of the essence of the question: a) the plan compliance with the topic of the abstract; b) compliance with the content of the topic and plan of the abstract; c) completeness and depth of knowledge on the topic; d) the validity of the methods and methods of working with the material; e) the ability to generalize, draw conclusions, compare different points of view on one issue (problem).

The validity of the choice of sources: a) evaluation of the used literature: whether the most famous works on the topic of research are involved (including recent journal publications, recent statistics, summaries, references, etc.).

Compliance with the requirements for registration: a) how correct the references to the used literature, references are; b) assessment of literacy and presentation culture (including spelling, punctuation, stylistic culture), knowledge of terminology; c) compliance with the requirements for the volume of the abstract.

The reviewer should clearly state the remark and questions, preferably with references to the work (possible on specific pages of the work), to research and evidence that the author did not take into account.

The reviewer can also indicate: whether the student has addressed the topic earlier (essays, written works, creative works, olympiad works, etc.) and whether there are any preliminary results; how the graduate conducted the work (plan, intermediate stages, consultation, revision and processing of the written or lack of a clear plan, rejection of the recommendations of the head).

The student submits an essay for review no later than a week before the defense. The reviewer is the teacher. Experience shows that it is advisable to acquaint the student with the review a few days before the defense. Opponents are appointed by the teacher from among the students. For an oral presentation, a student needs about 10–20 minutes (approximately as long as he answers with tickets for the exam).

Grade 5 is set if all the requirements for writing and defending an essay are fulfilled: the problem is indicated and its relevance is justified, a brief analysis of different points of view on the problem under consideration is made and one's own position is logically presented, conclusions are formulated, the topic is fully disclosed, the volume is met, external requirements are met design, given the correct answers to additional questions.



Grade 4 - the basic requirements for the abstract and its protection are met, but there are shortcomings. In particular, there are inaccuracies in the presentation of the material; there is no logical sequence in the judgments; not sustained volume of the abstract; there are omissions in the design; Additional questions for the protection given incomplete answers.

Grade 3 - there are significant deviations from the requirements for referencing. In particular: the topic is covered only partially; factual errors in the content of the abstract or when answering additional questions; during the protection there is no output.

Grade 2 - the topic of the essay is not disclosed, a significant misunderstanding of the problem is found.

Grade 1 - student's essay is not presented.

### **Approximate topics of abstracts and presentations**

1. Requirements for collecting sputum for BC (bacterioscopy, seeding method, PCR).
2. Chronically current primary tuberculosis (features of the course and diagnosis).
3. BCZhita in children.
4. The value of blood tests for tuberculosis.
5. Differential diagnosis of round formations in the lungs.
6. Tuberculosis and motherhood.
7. Work on tuberculosis of the district phthisiatrician.
8. Early diagnosis of tuberculous meningitis.
9. Pathogenesis and pathological anatomy in tuberculosis and alcoholism.
10. Indications for the use of bronchoscopy.
11. Detection of tuberculosis among patients with COPD.
12. Detection of tuberculosis in patients with diabetes mellitus and features of the course of the process, outcomes.

13. Diseases of the stomach and tuberculosis.
14. The frequency and features of detection of tuberculosis in mental patients.
15. Measures in medical institutions in identifying a bacteriovascular agent.
16. Prevention of tuberculosis in tubstations.
- 17
18. Groups of follow-up, work with patients.
19. Differential diagnosis of pulmonary and gastric bleeding.
20. Silicotuberculosis (early diagnosis).
21. Features of the epidemiology of tuberculosis in prisons.
22. The role of the pediatrician in the early detection of tuberculosis.
23. Differential diagnosis of early tubintoxication.
24. Primary tuberculosis complex, differential diagnosis.
25. BCG vaccination and its significance
26. Lung cancer and tuberculosis.
27. Fungal lesions of the lungs and tuberculosis.
28. The role of different types of tuberculin samples.
29. HIV and tuberculosis.
30. Surgical treatment of patients with tuberculosis.
31. Side effects of major anti-TB drugs.



THE MINISTRY OF EDUCATION AND SCIENCE OF THE RUSSIAN FEDERATION  
Federal State autonomous education institution of higher education  
**«Far Eastern Federal University»**  
(FEFU)

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**SCHOOL OF BIOMEDICINE**

**FUND ASSESSMENT TOOLS**

**TRAINING COMPLEX OF DISCIPLINE**

**Phthiology**  
Educational program  
Preparation for 31.05.01. General Medicine  
**Form of training full-time**

**Vladivostok**

**2016**

## Passport of assessment fund

Completed in accordance with the Regulations on the Funds of Evaluation Assets of Educational Programs of Higher Education - Bachelor's Programs, Specialties, FEFU Magistrates, approved by order of the Rector No. 12-13-850 of May 12, 2015.

Competence code and formulation	Stages of forming the competence	
<p>CPC-8</p> <p>the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems</p>	Knows	<p>the classification and main characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs, side effects;</p> <p>general principles of receptor design and formulation of prescription medicinal formulations.</p>
	Is able to	<p>to analyze the effect of drugs on the basis of their pharmacological properties and the possibility of their using for therapeutic treatment;</p> <p>write prescriptions for medicines, use different medicines, apply basic antibacterial, antiviral and biological preparations;</p> <p>evaluate the possible manifestations of overdose of drugs and how to eliminate them; substantiate the principles of pathogenetic therapy of the most common diseases.</p>
	Possesses	<p>skills in the use of drugs in the treatment, rehabilitation and prevention of various diseases and pathological conditions.</p>
<p>PC-5</p> <p>the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases</p>	Knows	<p>the etiology, diagnosis, treatment and prevention of infectious diseases;</p> <p>the clinical signs, features of the course and possible complications of infectious diseases occurring in typical form;</p> <p>modern methods of clinical instrumental diagnosis of patients infection profile;</p> <p>features of the collection of pathological materials; precautions; special clothing;</p> <p>basic principles of diagnosis, treatment and rehabilitation of infectious diseases, indications for hospitalization with infectious diseases;</p> <p>principles of follow-up observation, rehabilitation of infectious patients;</p> <p>structure of infectious and phthisiological services, principles of organization, organization and mode of operation of infectious departments</p> <p>implementation of specific and nonspecific prevention of infectious diseases.</p>

	Is able to	<p>participate in the organization and provision of medical - preventive and sanitary anti-epidemic, prophylactic and rehabilitation assistance to the population with infectious diseases;</p> <p>interpret the results of the survey, make a preliminary diagnosis,</p> <p>outline the scope of additional studies to clarify the diagnosis;</p> <p>formulate a clinical diagnosis;</p> <p>develop a treatment plan taking into account the course of the disease, select and appoint drug therapy, use methods of non-drug treatment, to conduct rehabilitation measures.</p>
	Possesses	<p>the interpretation of the results of laboratory, instrumental methods of diagnosis with infectious disease;</p> <p>algorithm for making a preliminary diagnosis with the subsequent direction to additional examination and to specialist doctors;</p> <p>an algorithm for making a comprehensive clinical diagnosis of patients; the algorithm for the implementation of the main medical diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions for infectious diseases.</p>
<p>PC-6 the ability of determining the patient's basic pathological conditions , symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health , the 10th review.</p>	Knows	<p>the clinical signs, features of the course and possible complications of the most common infectious diseases;</p> <p>modern classification of infectious diseases;</p> <p>etiology, epidemiology, pathogenesis of tuberculosis;</p> <p>-clinical picture, features of the course and possible complications of tuberculosis, occurring in typical form in different age groups;</p> <p>criteria for the diagnosis of infectious diseases.</p>
	Is able to	<p>determine the patients basic pathological conditions, symptoms, syndromes, diseases, nosologic forms;</p> <p>formulate a topical diagnosis; to make preliminary and final diagnoses with a reflection of the etiology, course, nature and degree of dysfunction;</p> <p>outline the scope of additional studies to clarify the diagnosis and obtain a reliable result;</p>
	Possesses	<p>basic skills of algorithm of the developed clinical diagnosis;</p> <p>the interpretation of the results of laboratory and instrumental diagnostic methods;</p> <p>algorithm for making a preliminary diagnosis to a patient with suspected tuberculosis.</p>

<p>PC-8 the ability to determining the tactics of patient surveillance with different nosological entities</p>	<p>Knows</p>	<p>methods of treating patients with infectious diseases; the mechanism of action of the main groups of drugs; medical indications and contraindications to their use; complications caused by their use; the basic principles of diagnosis, treatment and rehabilitation of patients with tuberculosis, indications for hospitalization; rules for the collection of pathological materials from the patient; implementation of specific and nonspecific prevention of tuberculosis% determine indications for outpatient treatment and hospitalization of a patient with tuberculosis.</p>
	<p>Is able to</p>	<p>develop a plan of therapeutic measures for various infectious diseases; select an individual type of care for the patient in accordance with the situation: primary care, ambulance, hospitalization; formulate indications for the chosen method of treatment, taking into account etiotropic and pathogenetic means, to justify pharmacotherapy in a particular patient with the main pathological syndromes, to determine the route of administration, the regimen and dose of drugs carry out the appointment of drug therapy for children, taking into account the clinical picture of the disease.</p>
	<p>Possesses</p>	<p>the tactics of managing patients with various nosological forms.</p>

## MONITORING THE ACHIEVEMENT OF THE COURSE OBJECTIVES

Competence and its code		Stages of competence formation			
No.	Controlled sections / topics of disciplines	Codes and stages of the formation of competencies	Evaluation tools		
			Current control	Intermediate certification / exam	
1	<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems (GPC – 8)	Knows	EO-1 Interview	Questions of final control A semester - 1-36
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
	<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	Knows	EO-1 Interview	Questions of final control A semester - 1-38
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
	<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the ability of determining the patient's basic pathological conditions, symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health, the 10th review. (PC – 6)	Knows	EO-1 Interview	Questions of final control A semester - 36-110
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium
	<b>Module 1</b> Basic issues of phthysiology <b>Module 2</b> Clinical phthysiology	the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows	EO-1 Interview	Questions of final control A semester - 1-38
			Is able to	PW-1 Test	PW-1 Test
			Possesses	EO-3 Report	EO2 Colloquium

## The scale of assessment the level of formation of competences

Code and the wording of competence	Stages of competence		Criteria	Indicators	Points
the readiness for medical use of drugs and other medical substances and their combinations in solving professional problems (GPC – 8)	Knows	the classification and main characteristics of drugs, pharmacodynamics and pharmacokinetics, indications and contraindications to the use of drugs, side effects; general principles of receptor design and formulation of prescription medicinal formulations.	Knows the basics of clinical pharmacology	Classification, mechanism of action, indications and contraindications for prescribing drugs	65-71
	Is able to	to analyze the effect of drugs on the basis of their pharmacological properties and the possibility of their using for therapeutic treatment; write prescriptions for medicines, use different medicines, apply basic antibacterial, antiviral and biological preparations; evaluate the possible manifestations of overdose of drugs and how to eliminate them; substantiate the principles of pathogenetic therapy of the most common diseases.	Able to use drugs for therapeutic treatment	Recommendations of drugs for etiotropic, pathogenetic and symptomatic treatment of tuberculosis	71-84
	Possesses	skills in the use of drugs in the treatment, rehabilitation and prevention of various diseases and pathological conditions.	Owns the skills of prescribing drugs for the intended purpose.	Treatment plan	85-100
the readiness to collect and to analyze patient complaints, data of its history, the results of laboratory, instrumental, postmortem and other examinations to recognize the incidence or the absence of diseases (PC – 5)	Knows	the etiology, diagnosis, treatment and prevention of infectious diseases; the clinical signs, features of the course and possible complications of infectious diseases occurring in typical form; modern methods of clinical instrumental diagnosis of patients infection profile; features of the collection of pathological materials; precautions; special clothing; basic principles of diagnosis, treatment and rehabilitation of infectious diseases, indications for hospitalization with infectious diseases; principles of follow-up observation, rehabilitation of infectious patients; structure of infectious and phthisiological services, principles of organization, organization and mode of operation of infectious departments implementation of specific and nonspecific prevention of infectious diseases.	Knows the etiology, epidemiology, pathogenesis, clinical picture of tuberculosis	Classification, etiology, epidemiology, pathogenesis, clinical symptoms of tuberculosis	65-71
	Is able to	participate in the organization and provision of medical - preventive and	Formulate a preliminary	The appointment	71-84



		<p>sanitary anti-epidemic, prophylactic and rehabilitation assistance to the population with infectious diseases;</p> <p>interpret the results of the survey, make a preliminary diagnosis, outline the scope of additional studies to clarify the diagnosis;</p> <p>formulate a clinical diagnosis;</p> <p>develop a treatment plan taking into account the course of the disease, select and appoint drug therapy, use methods of non-drug treatment, to conduct rehabilitation measures.</p>	<p>diagnosis. Recommend laboratory and instrumental examinations. Outline a treatment plan and preventive measures.</p>	<p>of a preliminary plan for the examination and treatment of tuberculosis</p>	
	Possesses	<p>the interpretation of the results of laboratory, instrumental methods of diagnosis with infectious disease;</p> <p>algorithm for making a preliminary diagnosis with the subsequent direction to additional examination and to specialist doctors;</p> <p>an algorithm for making a comprehensive clinical diagnosis of patients; the algorithm for the implementation of the main medical diagnostic and therapeutic measures to provide first medical aid in emergency and life-threatening conditions for infectious diseases.</p>	<p>Owens the skills of formulating a clinical diagnosis, according to the ICD. Given the results of the survey</p>	<p>The formulation of the clinical diagnosis. Appointment of a survey plan, treatment and preventive measures.</p>	85-100
<p>the ability of determining the patient's basic pathological conditions, symptoms, syndromes, diseases in accordance with the International Statistical Classification of Diseases and problems related to health, the 10th review. (PC – 6)</p>	Knows	<p>the clinical signs, features of the course and possible complications of the most common infectious diseases;</p> <p>modern classification of infectious diseases;</p> <p>etiology, epidemiology, pathogenesis of tuberculosis;</p> <p>-clinical picture, features of the course and possible complications of tuberculosis, occurring in typical form in different age groups;</p> <p>criteria for the diagnosis of infectious diseases.</p>	<p>Clinical symptoms and syndromes of tuberculosis</p>	<p>Clinical criteria for tuberculosis</p>	65-71
	Is able to	<p>determine the patients basic pathological conditions, symptoms, syndromes, diseases, nosologic forms;</p> <p>formulate a topical diagnosis; to make preliminary and final diagnoses with a reflection of the etiology, course, nature and degree of dysfunction;</p> <p>outline the scope of additional studies to clarify the diagnosis and obtain a reliable result;</p>	<p>Identify symptoms and syndromes of tuberculosis</p>	<p>Diagnosis of tuberculosis syndromes</p>	71-84
	Possesses	<p>basic skills of algorithm of the developed clinical diagnosis;</p> <p>the interpretation of the results of laboratory and instrumental diagnostic</p>	<p>Skills to identify and determine pathological</p>	<p>Detailed clinical diagnosis according to</p>	85-100

		methods; algorithm for making a preliminary diagnosis to a patient with suspected tuberculosis.	conditions in tuberculosis patients	the modern ICD	
the ability to determining the tactics of patient surveillance with different nosological entities. (PC – 8)	Knows	methods of treating patients with infectious diseases; the mechanism of action of the main groups of drugs; medical indications and contraindications to their use; complications caused by their use; the basic principles of diagnosis, treatment and rehabilitation of patients with tuberculosis, indications for hospitalization; rules for the collection of pathological materials from the patient; implementation of specific and nonspecific prevention of tuberculosis% determine indications for outpatient treatment and hospitalization of a patient with tuberculosis.	Methods of treatment of tuberculosis, indications for prescribing drugs	Methods of etiotropic, pathogenetic and symptomatic treatment of tuberculosis	65-71
	Is able to	develop a plan of therapeutic measures for various infectious diseases; select an individual type of care for the patient in accordance with the situation: primary care, ambulance, hospitalization; formulate indications for the chosen method of treatment, taking into account etiotropic and pathogenetic means, to justify pharmacotherapy in a particular patient with the main pathological syndromes, to determine the route of administration, the regimen and dose of drugs carry out the appointment of drug therapy for children, taking into account the clinical picture of the disease.	Formulate a list of therapeutic measures in accordance with the situation	Justification of the type of care and therapeutic measures for a particular patient	71-84
	Possesses	the tactics of managing patients with various nosological forms.	Skills of rendering the medical help at tuberculosis	Prescribing treatment to a specific patient	85-100

### **Evaluation tools for intermediate certification**

#### **Offset content (12 semester)**

1. The current state of the problem of tuberculosis.
2. Properties of the causative agent of tuberculosis.
3. The state of the incidence of tuberculosis in the world and the Russian Federation.
4. Sanitary and epidemiological regime in the clinic of tuberculosis.
5. Basics of deontology in phthisiology.

6. Tuberculosis dispensary, tuberculosis cabinet, tasks and organization of work.
7. Prolong and early detection of tuberculosis.
8. Methods of clinical and laboratory examination of a patient with tuberculosis.
9. Methods of radiation diagnosis of tuberculosis.
10. Clinical and radiological syndromes in phthisiopulmonology.
11. Principles for constructing a classification of tuberculosis.
12. Clinical and oxygenological nosological units of tuberculosis.
13. Primary tuberculosis. Features of immunogenesis, morphology and clinic.
14. "Masks" of tuberculosis.
15. Tuberculous intoxication, as a nosological unit.
16. Primary tuberculosis complex (PTC). Complicated and uncomplicated version of the flow.
17. Differential diagnostics of the PTC flow stages with nonspecific pneumonia and pneumonitis.
18. Infiltrative and tumorous form of tuberculosis of VLHU, features of the course and diagnosis.
19. Differential diagnosis of intrathoracic nodulopathy in tuberculosis.
20. Chronically current primary tuberculosis.
21. Disseminated tuberculosis.
22. Acute (miliary) disseminated tuberculosis, its variants. Features of diagnosis, clinic, treatment and prognosis.
23. Clinical X-ray morphologic variants of acute, subacute and chronically current DTL.
24. Differential-diagnostic algorithm for DTL, its features in young and old people.

25. Tuberculosis of the central nervous system. Diagnosis, prognosis of the course of the disease, depending on the timeliness of diagnosis and the start of treatment.

26. Differential diagnosis of tuberculosis of the central nervous system.

27. Extrapulmonary tuberculosis.

28. Focal (OTL) and infiltrative pulmonary tuberculosis (ITL). Clinical X-ray options. Features of the flow.

29. Differential diagnosis of OTL and ITT with non-specific lesions of the lungs.

30. Clinical X-ray variants of caseous pneumonia (KP).

31. Differential diagnosis of variants of specific and non-specific destructive pneumonitis.

32. Pulmonary tuberculosis. Differential diagnosis of tuberculosis.

33. Destructive form of pulmonary tuberculosis. Differential diagnosis.

34. The basic principles of complex treatment of patients with tuberculosis.

35. Etiotropic and pathogenetic therapy.

36. Side effects of antituberculous chemotherapy, their elimination.

37. Rationale for outpatient therapy.

38. Complications associated with treatment.

39. Complications of respiratory tuberculosis: clinic, diagnosis, treatment; prevention.

40. Clinic, diagnosis and emergency care for pulmonary hemorrhages and spontaneous pneumothorax.

41. Extrapulmonary complications of tuberculosis: clinic, diagnosis, treatment; prevention.

42. Specific susceptibility for tuberculosis, mass tuberculin diagnosis.

43. Methods and techniques for the production of the Mantoux test, diaskin test, evaluation of their results.

44. Methods of tuberculin diagnosis.

45. Differential diagnosis of post-vaccination and post-infectious sensitivity.
46. TB vaccination with BCG and BCG-M, revaccination, contraindications, possible complications, management tactics.
47. The organization of tuberculosis care.
48. Tuberculosis dispensary, tuberculosis cabinet, tasks and organization of work.
49. Timely and early detection of tuberculosis.
50. The outbreak of tuberculosis infection, mapping of the outbreak and a plan of measures for its recovery.
51. Contingent groups. The organization of observation, tactics of reference.
52. Measures for the prevention of tuberculosis among contingents in contact with a patient with tuberculosis, including nosocomial infection.
53. Tuberculosis work in hospitals.
54. Formation of risk groups for pulmonary and extrapulmonary tuberculosis.

**Scoring criteria on the student competition on the subject  
«Phthisiology»**

<b>Points (rating)</b>	<b>Evaluation offset/exam (standard)</b>	<b>Requirements to the formed competences</b>
86-100	<i>«credited»</i>	The rating of «excellent» to the students, if it is deeply and firmly mastered the program material, comprehensively, consistently, accurately and logically sound it sets, can be closely linked theory with practice, freely to cope with questions and other types of application knowledge is not difficult to answer at modification jobs has versatile skills and techniques perform practical tasks.
76-85	<i>«credited»</i>	The rating of «good» to the students, if he knows for sure the material correctly and essentially sets out its not allowing significant inaccuracies in answering the question correctly applies the theoretical principles in solving practical issues and challenges, has the necessary skills and techniques for their implementation.

51-75	« <i>credited</i> »	The rating of «satisfactory» to the students, if he has knowledge of only the base material, but did not learn his parts, admits inaccuracies, insufficient correct wording violations of logical consistency in the presentation of program material, has difficulty in carrying out practical work.
Less 50	« <i>fail</i> »	The rating of «unsatisfactory» to the students, who did not know a large part of the program material, allows substantial errors, uncertainly, with great difficulty performing practical work.

**Typical estimates of funds for the current certification**

**Test papers**

**1. All of the following are the targets of STOP TB STRATEGY partnership except:**

- (a) Achieve a diagnosis rate  $> 70\%$  and cure rate  $> 85\%$  (by 2005)
- (b) Reduce prevalence to  $< 150$  per 100,000 population per year (by 2010)
- (c) Lower deaths to  $< 1$  per 100,000 population per year (by 2010)
- (d) Global incidence of TB disease  $< 1$  case per million population per year

**2. If the objective of the investigator is to assess the incidence of tuberculosis infection in a community, the most appropriate methodology would be to:**

- (a) Identify all individuals with positive tuberculin test
- (b) Perform sputum examination of chest symptomatics
- (c) Identify new converters to Tuberculin test
- (d) Screen all under-five children with Tuberculin test

**3. Point of control in tuberculosis the infection is:**

- (a)  $< 1\%$  in 0-14 group of children
- (b)  $> 1\%$  is all children 0-5 yrs age group

(c) < 1% in 15-49 of age group

(d) < 2% in 0-14 group

**4. Which of the following is true about tuberculin test?**

(a) It gives the immune status of patient

(b) It may be negative in dissociated tuberculosis

(c) It tells about prior exposure to Mycobacterium tuberculosis only

(d) It is highly positive in a post measles case

**5. The most appropriate test to assess the prevalence of tuberculosis infection in a community is:**

(a) Mass Miniature Radiography

(b) Sputum examination

(c) Tuberculin Test

(d) Clinical examination

**6. National Tuberculosis Institute is located at:**

(a) New Delhi

(b) Chingelput

(c) Bangalore

(d) Chennai

**7. Decrease in which of the following parameters indicate the decrease in tuberculosis problem in India?**

(a) Incidence of infection

(b) Prevalence of infection

(c) Incidence of disease

(d) Prevalence of disease

**8. The overall prevalence of tuberculosis infection in India as per 4th round of longitudinal survey was:**

(a) 20%

(b) 30%

(c) 40%

(d) 50%

**9. The percentage of positive Mantoux test in Indian if 20-40 yrs age group is:**

(a) < 5% (b) 5 – 10%

(c) 20 – 30% (d) > 50%

(e) > 80%

**10. Population of a village on 1st June 2007 is 16,500. Since 1st January 2007, 22 new cases of TB were detected. Total registered cases were 220. what is the incidence of TB?**

(a) 133 per 100, 000

(b) 121 per 100, 000

(c) 111 per 100, 000

(d) 100 per 100, 000

**11. Which of the following is not false about annual risk of TB?**

(a) ARI of 1% = 75 new cases

(b) Current ARI in India is 1.7%

(c) It represents new cases of TB.

(d) It is assessed by tuberculin conversion in previously non-vaccinated children

**12. McKneown's Theory states that reduced prevalence of Tuberculosis occurs due to:**

(a) Enhanced knowledge and awareness

(b) Medical advancements

(c) Behavioural modification

(d) Social and environmental factors

**13. A lactating woman has sputum positive Tuberculosis and her neonate child is 3 months old. What is the recommended**



**chemoprophylaxis?**

- (a) INH 3mg/kg for 3 months
- (b) INH 5mg/kg for 3 months
- (c) INH 3mg/kg for 6 months
- (d) INH 5mg/kg for 6 months

**14. Antitubercular drug which causes Optic neuritis is:**

- (a) Ethambutol (b) Rifampicin
- (c) Isoniazid (d) Pyrizinamide

**15. Number of (+) for tubercle bacilli if count in AFB sample is > 10 per oil immersion fields?**

- (a) + (b) ++
- (c) +++ (d) Scanty

**16. One TB infected person can infect how many people in 1 year?**

- (a) 20 (b) 30
- (c) 10 (d) 5

**17. Incidence of TB in a community measured by:**

- (a) Sputum smear +
- (b) Tuberculin test +
- (c) Sputum culture
- (d) Mantoux test +

**18. The most appropriate test to assess the prevalence of tuberculosis infection in a community is:**

- (a) Mass miniature radiography
- (b) Sputum examination
- (c) Tuberculin test
- (d) Clinical examination

**19. Mycobacterium tuberculosis infection in humans is most common because of:**

- (a) Contact (b) Inhalation
- (c) Infiltration (d) Inoculation

**20. One of the following is known as Tuberculin Conversion**

**Index:**

- (a) Incidence of infection
- (b) Prevalence of infection
- (c) Incidence of disease
- (d) Prevalence of disease

**21. Xpert MTB/RIF test is used to detect:**

- (a) For assessing resistance to isoniazid
- (b) For assessing multi drug resistant TB
- (c) For assessing rifampicin resistance
- (d) Monitoring drug response in MDR TB
- (e) Diagnosis of TB

**22. TB multidrug regimen is given to:**

- (a) Prevent resistance
- (b) Broad spectrum
- (c) Prevent side effects
- (d) None

**23. Sputum positive TB is:**

- (a) 1 out of 2 sputum sample +ve
- (b) 2 out of 3 sputum sample +ve
- (c) BACTEC +ve
- (d) Mantoux test positive

**24. Tuberculin positive means:**

- (a) Immunodeficient patient
- (b) Resistance to tuberculin protein
- (c) Patient is infected with mycobacterium
- (d) Patient is suffering from disease

**25. Sputum positive TB patients on chemotherapy should be isolated at least for**

- (a) 2 weeks
- (b) 3 weeks
- (c) 4 weeks
- (d) 6 weeks

**26. Contacts of Sputum positive tuberculosis patient who should be given preventive chemotherapy**

- (a) Pregnant women
- (b) Old people
- (c) Children above 6 years
- (d) Children below 6 years

**Review Questions**

**27. In T.B/ a 'case' is”:**

- (a) Cough (b) Sputum positive
- (c) Mantoux positive (d) X-ray positive

**28. National tuberculosis institute is situated at:**

- (a) Bombay
- (b) Calcutta
- (c) Bangalore
- (d) Delhi

**29. Tuberculin unit is:**

- (a) 0.0001 mg
- (b) 1 unit of PPD RT3
- (c) 0.1 mg BCG
- (d) None of the above

**30. The most appropriate test to assess the prevalence of tuberculosis infection in a community is?**

- (a) Mass miniature radiography

- (b) Sputum examination
- (c) Tuberculin test
- (d) Clinical examination

**31. By WHO best criteria for TB diagnosis is:**

- (a) Sputum + ve
- (b) Chest pain
- (c) Cough – 3 weeks
- (d) X-ray finding

**32. A case of TB a/c to WHO is detected by:**

- (a) Sputum exam
- (b) Mass Miniature radiography
- (c) Montoux test
- (d) Elisa

**33. True about tuberculosis-:**

- (a) >10<sup>4</sup> bacilli are required in sputum for detection
- (b) Mantoux test can differentiate between BCG and infection
- (c) Can be grown on ordinary culture media
- (d) Drug sensitivity is tested by schick test

**34. In tuberculosis combination of Antimicrobials is used:**

- (a) To delay the development of resistance
- (b) To reduce toxicity
- (c) To Broaden anti-bacterial spectrum
- (d) To prevent Liberation of toxins from organisms

**35. Number of sputum positive cases of tuberculosis per lakh in India is:**

- (a) 75 (b) 50
- (c) 40 (d) 10

**36. BCG is:**

- (a) Live attenuated vaccine

- (b) Killed vaccine
- (c) Toxoid
- (d) Immunosuppressant agent

**119. 1 mL of expectoration contains what number of TB bacilli in an active case of TB?**

- (a) 100 (b) 1,000
- (c) 10,000 (d) 1,00,000

**120. In India, a tubercular mother is advised for all except:**

- (a) Give baby BCG
- (b) ATT to mother
- (c) With hold Breastfeeding
- (d) None of these

#### **Evaluation tools for the current attestation**

**Control tests** are designed for the students studying the course "Phthiology".

The tests are necessary for the control of knowledge during the current interim attestation, and for the evaluation of knowledge and thus to get credit for course.

While working with tests the student are asked to select one answer from the three - four proposed. At the same time the tests are not identical in their complexity.

Offered tests contain several variants of correct answers. The student must select all the correct answers.

The tests are designed both for individual and collective solving them. They can be used in the process both classroom lessons and independent work. The tests, required for the control of knowledge, are chosen in the process of the intermediate certification by each teacher individually.

The results of the test tasks are evaluated by a teacher on a five-mark grading scale or system of "**credit**" - "**not credit**".

Evaluation of "**excellent**" is got by student at the correct answer to more than 90% of the proposed tests.

Evaluation of "**good**" getting - at the correct answer by more than 70% of tests.

Evaluation of "**satisfactory**" - at the correct answer to 50% of the offered tests.

### **Examples of Case studies**

Case study number 1.

A 48-year-old patient has had pulmonary tuberculosis in the past and has been removed from the register for recovery.

During the prophylactic examination, radiologically revealed changes: in the 2nd segment of the right lung a thin-walled annular shadow  $3 \times 2$  cm in diameter with clear inner and outer contours. In the surrounding lung tissue there are single foci of weak intensity without clear contours, in the apical segment 2 dense foci with clear contours up to 0.5 cm. In the sputum, MBT are found. Hemogram: ESR - 29 mm / hour,  $1 - 6.0 \cdot 10^9 / l$ , p-I neutroph. - 4%, limf. - 34%.

Make a diagnosis. Identify the dispensary group.

Case study number 2

A young man of 17 years old, a student in grade 10, is registered in the 4th dispensary group (contact with his father suffering from tuberculosis). At the next examination revealed pathological changes on the radiograph. No complaints. A month ago, he had the flu.

Objectively: the skin is clean, peripheral lymph nodes are not enlarged. On

the left shoulder there is one post-vaccination scar. Lungs, heart - without features. Blood and urine tests are normal. BC in the sputum is not detected bacterioscopically and three times by the method of seeding. Mantoux test with 2TE PPD-L: at the age of 1 year - papule 6 mm, 2-16 years - negative, 17 years - papule 15 mm. Radiograph: the right in 3 segment is determined by a group of foci of average intensity of the discharge of nature with a heaviness to the root. The root is reactive.

Make a diagnosis. Identify the dispensary group.