MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

V.N. KARAZIN KHARKIV NATIONAL UNIVERSITY

Department of general and clinical immunology and allergology

"APPROVED"
Vice-President for Research and Education
_____A.V. Panteleimonov
"___" _____2020year

WORKING PROGRAM
Discipline: (ELECTIVE COURSE)
"CLINICAL PARASITOLOGY AND TROPICAL MEDICINE"

Educational qualification:	"Specialist"
Branch of learning	22 "Health care"
Training direction	222 "Medicine"
kind of discipline	elective discipline
faculty	medical

2020/2021 year of studies

Working program of the discipline «Clinical parasitology and tropical medicine» is recommended for approval by the Academic Council of the School of medicine «13» 05 2020 year, protocol № 9

Working program of the discipline «Clinical parasitology and tropical medicine» for applicants for educational qualification "Specialist" professional qualification "Doctor" branch of learning 22 "Health care" specialty 222 "Medicine". V.N. Karazin Kharkiv National University, School of medicine . «13» 05 2020 year. – 22 p.

Working program of the discipline «Clinical parasitology and tropical medicine» for applicants for educational qualification "Specialist" professional qualification "Doctor" branch of learning 22 «Health care» specialty 222 «Medicine» on the school of medicine of V.N. Karazin Kharkiv National University is prepared on the basis of the typical (exemplary) program of the discipline, composed by Government institution «Central methodic department for higher medical education of the Ministry of Healthcare of Ukraine» authorized with the Head of the Government institution «Central methodic department for higher medical education of the Ministry of Healthcare of Ukraine» I. Melnik on the 28th of april 2017, authorized with the Acting Head of the Education and Science department of the Ministry of Healthcare of Ukraine N. Oleksina on the 3rd of may 2017 and approved by the Vice-minister of the Ministry of Healthcare of Ukraine O. Linchevskiy on the3rd of may 2017.

Authors of the working program of the discipline «Clinical parasitology and tropical medicine»:

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Working program was reviewed and approved at a meeting of the Department of general and clinical immunology and allergology of the school of medicine of V.N. Karazin Kharkiv National University, protocol № 10 «04» 05 2020 year.

Head of Department of general and clinical immunology and allergology, Doctor of Medicine, T.I .Liadova _____ «04» 05 2020 year

The program is agreed with the guarantor of the educational (professional / scientific) program (project team leader) _____ «Medicine» _____
the name of the educational program

Guarantor of educational (professional / scientific) program (project team leader) full professor, MD, Chenuskyi V.G.

_____ (Chernusovskiy V.G.)
(Signature) (last name and first name

Working program was reviewed and approved at a meeting of the Methodical committee of the school of medicine of V.N. Karazin Kharkiv National University, protocol № 9 «06» 05 2020 year.

Head of the Methodical committee_____Candidate of Medicine, Associate Professor,

"06" 05 2020 year

O.L. Govalenkova

EXPLANATORY NOTE

The working program of the «Clinical parasitology and tropical medicine» for applicants for the educational qualification «Specialist»of the professional qualification «Doctor» branch of learning 22 «Health care» specialty 222 «Medicine» in the school of medicine of the V.N. Karazin Kharkiv National University is prepared on the basis of the standard (approximate) program of the discipline compiled by the State institution «Central methodical office of higher medical education of the Ministry of Healthcare of Ukraine» agreed with the Head of the State institution «Central methodical office of higher medical education of the Ministry of Healthcare of Ukraine» I. Melnik on the 28th of April 2017, agreed with the Acting Head of the Education and Science department of the Ministry of Healthcare of Ukraine N. Oleksina on the 3rd of May 2017 and approved by the Vice-minister of the Ministry of Healthcare of Ukraine O. Linchevskiy on the3rd of May 2017.

The working program of the discipline « Clinical parasitology and tropical medicine» is compiled according to the Project of a Standard of the higher medical education of Ukraine of the second (master's) program branch of learning 22 «Health care» specialty 222 «Medicine» for applicants for the educational qualification «Specialist» of the professional qualification «Doctor» discussed at the XIII All-Ukrainian research and practical conference with an international participation «Topical issues of a quality of the medical education» (12th -13th of May 2016, Ternopil, Ukraine), and an approximate educational plan for applicants for the educational qualification «Specialist» of the professional qualification «Doctor» branch of learning 22 «Health care» specialty 222 «Medicine», approved by the Acting Minister of Healthcare of Ukraine V. Shafranskiy on the 26th of July 2016, taking into account regulations of the Protocol for grading the learning activity of applicants for higher medical education in conditions of an implementation of the the European Credit Transfer System (ECTS) of the organization of the educational process, approved by the Ministry of Healthcare of Ukraine on the 15th of April 2014; the Low of Ukraine «On higher education» № 2443-VIII dated 22nd of May 2018; Statute of the organization of the educational process in the V.N. Karazin Kharkiv National University, approved on the meeting of the Academic Board of the University (protocol of the meeting №5 dated 27th of March 2017), and accepted by the order of the President of the University (order № 0202-1/155 dated 21st of April 2017) in the revised version dated 5th of September 2018; educational plan of training for applicants for educational qualification «Specialist» of the professional qualification «Doctor» branch of learning 22 «Health care» specialty 222 «Medicine» in the medical faculty, approved by the Academic Board and accepted by the order of the President of V.N. Karazin Kharkiv National University, Educational and professional program of the higher education training for applicants for the educational qualification «Specialist» of the professional qualification «Doctor» branch of learning 22 «Health care» specialty 222 «Medicine» on the school of medicine, approved by the Academic Board of V.N. Karazin Kharkiv National University (protocol № 13 dated 31st of October 2016); the Statute of V.N. Karazin Kharkiv National University, approved by the order of the Ministry of Education and Science of Ukraine (order №644 dated 13th of June 2018); The codex of values of V.N. Karazin Kharkiv National University and other regulatory acts.

The duration of studies of the discipline «Clinical parasitology and tropical medicine» is 1 educational semester (XI) during the 6th academic year, total amount of academic hours is 120 hours (4,0 ECTS credits), which of them 18 hours – practical classes, 102 hours – independent work (IW) of applicants for higher education. Structure of hours for studying the discipline «Clinical parasitology and tropical medicine» is in the table below (Table 1).

ACADEMIC HOURS FOR STUDYING THE DISCIPLINE (ELECTIVE COURSE) "CLINICAL PARASITOLOGY AND TROPICAL MEDICINE"

Table 1

Stucture of the discipline	Hours				ECTS Credits	Year and semester of studying	Type of control
	Lectures	Practical classes		total			
Module «Clinical parasitology and tropical medicine»	-	18	102	120	4,0	6 course, XI semester	Final semester control
TOTAL	**-**	**18**	**102**	**120**	**4,0**		

Note: 1 ECTS credit – 30 academic hours; teaching load – 15%; IW – 85%

I. EDUCATIONAL DISCIPLINE DESCRIPTION

1.1. THE PURPOSE OF STUDIES OF THE EDUCATIONAL DISCIPLINE

The purpose of teaching the discipline «Clinical parasitology and tropical medicine» is to deepen knowledge of infectious pathology of countries with tropical climates in the context of globalization of economic processes and to clarify the patterns of the modern pathological process in diseases of the tropical climate zone with different causes due to the growth of international tourism, international redistribution of labor resources, the need to form future doctors' clinical thinking, skills and practical skills that provide timely diagnosis of various tropical infectious diseases and their complications, the appointment of rational treatment, choosing optimal tactics in case of emergency care. Particular attention in the teaching of the discipline is paid to the issues of early diagnosis, treatment of patients in the prehospital stage, which helps to improve the quality of medical training, especially for the outpatient health department.

1.2. THE MAIN TASKS OF STUDYING THE DISCIPLINE

The main tasks of studying the discipline «Clinical parasitology and tropical medicine» are:

- search for and clarification of modern patterns of distribution and damage to the human body with a variety of tropical infectious diseases;
- identification of the main clinical symptoms that form a typical syndrome of the most common tropical infectious diseases and parasitic invasions;
- make a preliminary diagnosis of the most common tropical and subtropical infectious diseases and parasitic invasions (syndromic and etiological)
- to make a preliminary clinical diagnosis, plan preventive and quarantine measures for the most common subtropical, tropical infectious diseases and parasitic invasions;
- interpret the patterns and features of the pathological and epidemiological process in subtropical, tropical infectious diseases;
- carry out differential diagnostics of subtropical, tropical infectious and parasitic diseases with non-infectious ones;

- interpret the results of specific examination methods in the presence of combined pathology - infectious and non-infectious;
- to determine the tactics of managing patients with the most common tropical infectious and parasitic diseases;
- determine the tactics of hospitalization and isolation of infectious patients;
- diagnose emergency conditions and provide treatment at the prehospital stage;
- demonstrate awareness of tropical infectious diseases as weapons of mass destruction;
- predict the consequences of subtropical, tropical infectious and parasitic diseases for human health.
- demonstrate the ability to maintain medical records in the clinic of infectious diseases.

Learning outcomes of the discipline (elective course) «Clinical parasitology and tropical medicine» are:

As a result of studying the discipline the applicants for higher education:

must know:

- the fundamentals of legislation on health care and directive documents that determine the activities of health authorities and institutions;
- general issues of the organization of medical and psychological assistance in Ukraine;
- organization of work of medical and polyclinic departments,
- organization of work of ambulance and emergency care for the adult population;
- organization of dispensary observation;
- anti-epidemic measures in the event of a focus of infection;
- principles of diet therapy, physiotherapy and physical rehabilitation;
- forms and methods of sanitary and educational work;
- modern literature in the specialty;

should be able to:

- to generalize scientific and practical sources of literature;
- actively participate in the dissemination of medical knowledge among the population;
- to carry out educational work (talks, lectures) among the population, patients and in institutions of the general medical service;
- to interpret the concept of "parasitology", "tropical medicine". Determine the place of subtropical, tropical infectious diseases in the system of infectious diseases and tropical medicine;
- to interpret epidemiological and pathogenetic patterns, features of the clinical course, diagnosis and prevention of parasitic diseases and tropical infectious diseases;
- demonstrate skills in clinical and laboratory diagnosis of more common parasitosis and tropical infectious diseases and their complications;
- to carry out differential diagnostics of the most common parasitoses and tropical infectious diseases and their complications;
- make a plan for the examination of the patient;
- to determine the tactics of hospitalization and isolation of patients, the most common are parasitosis and tropical infectious diseases;
- to diagnose emergency conditions in the case of parasitic and tropical infectious diseases;
- to prescribe rational treatment to patients the most common parasitosis and tropical infectious diseases at different stages of medical care;
- to determine the treatment tactics in case of complications or emergency conditions with parasitosis and tropical infectious diseases;
- to plan the main preventive measures that need to be implemented in the case of parasitic and tropical infectious diseases;
- to predict the consequences of the influence of parasitic diseases and tropical infectious diseases on human health.

The general amount of teaching load is described in credits ECTS, which are scored to applicantss in case of successful learning the exact module (final credit). The European Credit Transfer System encourages to study systematically along the year of studies when learning the discipline.

The Academic Council of the School of medicine on the demand of the department of General and clinical immunology and allergology can change the amount of hours on the discipline «Clinical parasitology and tropical medicine», but not more than 10% of its amount. The department of General and clinical immunology and allergology has a right to make some changes in the working program according to its organizational and technical possibilities, the line of research works, ecological peculiarities of the region, but general demands of the discipline and educational plans must be considered. Current program totally satisfy requirements of demands mentioned above.

Current educational activity of applicantss is controlled on the practical classes according to specific goals. To estimate the level of knowledge of applicantss it is recommended to use such methods, as tests, written or oral answers on control questions, solving situational test, providing laboratory examinations, analyzing results, controlling the mastering practical skills by applicantss. The final module control is carried out at the end of the study of modules. Assessment of applicants knowledge from discipline is rated by the multiscale as the average score of mastering the relevant modules and is defined according to the ECTS system and the traditional scale accepted in Ukraine. More details about the method of estimating current educational activity and the results of final module are described in the specific chapter of current working program (see below).

ACCORDING TO THE REQUIREMENTS OF THE EDUCATIONAL PROFESSIONAL PROGRAM, APPLICANTS FOR HIGHER MEDICAL EDUCATION:

must know:

- bases of the legislation on health care and the directive documents defining activity of bodies and establishments of health care;
- general issues of organization of infectious services in Ukraine;
- anti-epidemic measures in the event of an outbreak;
  principles of disease treatment;
- tactics of providing emergency medical care;
- tactics of contingent of persons subject to dispensary supervision;
- organization of hospital and outpatient departments;
- organization of ambulance and emergency care for the adult population;
- organization of dispensary supervision;
- principles of diet therapy, physiotherapy and therapeutic exercise;
- forms and methods of sanitary and educational work;
- data of modern literature according to the specialty;

should be able to:

- find out information about the patient;
  formulate a preliminary clinical diagnosis of the disease;
  make a differential diagnosis;
- diagnose emergencies;
- make a plan for examination of the patient;
  determine the need for special research methods (laboratory, functional), organize their implementation and give their correct interpretation;
- evaluate the results of laboratory and instrumental research;
  determine the necessary mode of work and rest in the treatment of diseases;
- determine the necessary diet in the treatment of diseases;
- determine the nature of treatment of diseases;

- substantiate medical tactics and methods of treatment taking into account the individual characteristics of the patient and the general patterns of the disea
- provide emergency medical care;
- perform medical manipulations;
- carry out sanitary and hygienic and preventive measures;
- plan preventive and anti-epidemic measures for infectious diseases;
- carry out medical and evacuation measures;
- generalize scientific and practical literature;
- take an active part in the dissemination of medical knowledge among the population;
- to carry out educational work (conversations, lectures) among the population, patients and in institutions of general medical service.

Competences and learning outcomes, the formation of which is facilitated by the discipline. In accordance with the requirements of the standard, the discipline provides the acquisition of higher medical education by the following competencies:

integral: the ability to critically analyze and evaluate modern scientific achievements, generate new ideas in solving research and practical problems, including in interdisciplinary areas.

special:

- ability and readiness for scientific research in studying the etiology, pathogenesis of infectious and parasitic diseases, clinical and pathophysiological manifestations of infectious and parasitic diseases using clinical laboratory, radiation, immunological, genetic, pathomorphological, biochemical and other research methods;
- ability and readiness to improve laboratory, instrumental and other methods of examination of tropical infectious patients, improvement of diagnosis and differential diagnosis of infectious and parasitic diseases;
- ability and willingness to study the mechanisms of action, efficacy and safety of drugs and non-drug methods of exposure, improvement and optimization of therapeutic measures, prevention or exacerbation of infectious and parasitic diseases.

Table 2

COMPETENCIES

Classification of competence according to the NQC	**Knowledge**	**Skills**	**Communica-tion**	**Autonomy and responsibility**
Integral competence				
Ability to solve complex problems in the field of professional medical activity, to conduct original scientific research and to carry out research and innovation activities in the field of health care on the basis of deep rethinking of existing and creation of new integral theoretical or practical knowledge and / or professional practice.				
General competencies				
1. The ability to conduct research at the appropriate level	Know: methodological bases of scientific researches; categorical apparatus of scientific research; classification of research methods; general scientific methodological	Be able: plan and organize research work; use the categorical apparatus of scientific research; use documentary sources of scientific information; create a fund of primary sources	Transfer of research information at the appropriate levels; interaction within internal and external scientific environments	Personal responsibility for: non-compliance with ethical norms of research activities (copyright, prevention of plagiarism, etc.);

	principles; reference and search engine; principles of patent science; ways to obtain scientific and professional information; sources of obtaining the necessary information	and secondary information; use the search and reference device; develop plans and carry out experimental research; to make out scientific work in the form of reports, theses, articles, methodical materials, dissertation work; substantiate the conclusions of their observations, come up with proposals for improving professional activities in the hospital		reliability of research information; efficiency of information transfer
2. Ability to improve professional skills	Know: Regularities of cognitive processes; Lifelong learning strategy; Methods of productive learning; Theory of value orientations and motivation of the person; Basics of rhetoric; Fundamentals of time management	Be able: Operate with philosophical categories and doctrines; Use self-study methods; Assess the level of motivation; Constantly improve their educational and general cultural level	Determine the value orientations and motivational level of the individual; Ability to self-study and self-realization; Ability to effectively organize their own time	Formation of a systemic scientific worldview and general cultural outlook; Development of cognitive abilities; Ability to self-study and self-realization
3. The ability to identify, pose and solve problems, generate ideas.	Know: Patterns of science development; Stages and patterns of the cognitive process; Stages of the research process; Basics and conditions of creativity	Be able: Analyze data obtained from information sources	Communication with supervisors, colleagues and partners during the discussion of problems, finding ways to solve them	Ability to think independently and independently, formulate ideas and produce hypotheses
4. Ability to evaluate and ensure the quality of work performed	Know: quality standards; quality assessment criteria; forms and methods of evaluating the	Be able: to monitor the educational and scientific process; apply effective methods of assessing the cognitive sphere;	Interaction, cooperation with colleagues and management, students	Improving the results of their own activities and the results of others; Individual responsibility for the results of

	results of educational and scientific activities	develop proposals for its improvement		tasks; integrity, trust and responsibility for one's own actions.
Special (professional, subject) competencies				
1. Ability and readiness for scientific research in the study of etiology, pathogenesis of infectious diseases, clinical and pathophysiological manifestations of infectious diseases using clinical laboratory, radiological, immunological, genetic, pathomorphological, biochemical and other research methods	Know: Methods of critical analysis and evaluation of clinical and pathophysiological manifestations of infectious diseases using clinical laboratory, radiation, immunological, genetic, pathomorphological, biochemical and other research methods	Be able: Analyze alternative solutions to research and practical problems and evaluate the potential gains / losses of these options	Skills of critical analysis and assessment of clinical pathophysiological manifestations of infectious diseases using clinical laboratory, radiation, immunological, genetic, pathomorphological, biochemical and other research methods	Continuous self-learning and self-improvement
2. Ability and readiness to improve laboratory, instrumental and other methods of examination of infectious patients, improvement of diagnosis and differential diagnosis of infectious and parasitic diseases	Know: Methods of critical analysis and evaluation of clinical and pathophysiological manifestations of pathology of infectious diseases using clinical laboratory, radiological, immunological, genetic, pathomorphological, biochemical and other methods of research and differential diagnosis of infectious and parasitic diseases	Be able: Analyze alternative solutions to research and practical problems and evaluate the potential gains / losses of these options	Skills of critical analysis and assessment of clinical pathophysiological manifestations of infectious diseases using clinical laboratory, radiation, immunological, genetic, pathomorphological, biochemical and other methods of research and differential diagnosis of infectious diseases	Use modern information technologies for scientific research; Possession of research methodology for correct formulation of hypotheses and research questions
3. Ability and willingness to study the mechanisms of action, efficacy and safety of drugs and non-drug methods of	Know: Methods of critical analysis and evaluation of the effectiveness and safety of	Be able: Analyze alternative solutions to research and practical problems and evaluate the	Skills of critical analysis and evaluation of the effectiveness and safety of	Initiative, independence, responsibility; Prevention of system errors in scientific

exposure, improvement and optimization of therapeutic measures, prevention or exacerbation of infectious diseases	drugs and non-drug methods of exposure, improvement and optimization of treatment measures, prevention or exacerbation of infectious diseases	potential gains / losses of these options	drugs and non-drug methods of exposure, improvement and optimization of treatment measures, prevention or exacerbation of infectious diseases	research
4. Possession of modern methods of scientific research	Know: Specificity and sensitivity of different research methods; Research methods on the subject of the scientific project, their possibilities and limitations	Be able: Use modern research methods and research methods; Modify and improve research methods	Learn research methods and techniques, exchange information and transfer knowledge to colleagues.	Independent performance of scientific research; Accuracy and reproducibility of research results

1.3. NUMBER OF CREDITS

The discipline program is structured into 1 ECTS module, which consists of 1 content modules with a total volume of 4,0 credits (120 hours). The volume of academic load for the applicant for higher medical education is described in ECTS credits - score credits, which are given to the applicants for higher medical education upon successful completion of the module.

The educational process is organized according to the credit-module system in accordance with the implementation of the provisions of the Bologna Declaration in the higher medical education system.

1.4. TOTAL AMOUNT OF HOURS

Table 3

1.5. Characteristics of the discipline (elective course) "Clinical Parasitology and Tropical Medicine"	
elective	
Full-time education	
Year of training	
6-th	
semester	
XI	
lectures	
-	
Practical, seminar classes	
18 hours	
Laboratory classes	
–	
Independent work	
102 hours	

Table 4

Distribution of Academic hours for studying the discipline (elective course) "Clinical Parasitology and Tropical Medicine"

Stucture of the discipline	Hours				Credits ECTS	Year and semester of studies	Type of control
	Lectures	Practical classes	IW	total			
Module "Clinical Parasitology and Tropical Medicine"	-	18	102	45	120	6 year, XI semester	credit
TOTAL	**-**	**18**	**102**	**120**	**4,0**		

Note: 1 credit ECTS – 30 academic hours; teaching load – 15%; IW – 85%.

1.5. PLANNED LEARNING RESULTS

The final goals of the discipline

- SP.028. To identify the main clinical symptoms that form a typical syndrome of the most common infectious, parasitic and tropical diseases;
- SP.042. To make a preliminary diagnosis of the most common infectious , parasitic and tropical diseases (syndrome and etiological);
- SP.046. To make a preliminary clinical diagnosis, to plan preventive and quarantine measures for the most common and especially dangerous diseases;
- SP.033. To interpret patterns and specific features of pathological and epidemiological process in different infectious , parasitic and tropical diseases;
- SP.066. To carry out clinical and laboratory differential diagnosis of various infectious diseases and infectious diseases with non-infectious ones;
- SP.067. To interpret the results of specific methods of examination in the presence of combined pathology – infectious and non-infectious;
- SP.025. To determine the tactics of treatment of patients with the most common infectious diseases;
- SP.026. To determine the tactics of hospitalization and isolation of infectious patients;
- SP.063. To diagnose medical emergencies and provide pre-hospital care;
- SP.031. To demonstrate awareness of infectious diseases as a mass destruction weapon;
- SP.082. To predict the effects of infectious diseases on human health.
- SP.059. To demonstrate the ability to maintain medical records in an infectious , parasitic and tropical disease clinic.

II. THEMATIC PLAN OF EDUCATIONAL DISCIPLINE

The working program for applicants for higher medical education of the discipline (elective course) «Clinical Parasitology and Tropical Medicine» is structured as a single module, which consists of 2 content modules, the study of materials of each allows applicants for higher medical education to fully learn the theoretical part and master practical skills of a separate

section of the discipline. The form of discipline control is the control with the help of final module. The Credit-Module Organization of the Educational Process (CMOEP) encourages applicants for higher medical education to study systematically throughout the academic year and should improve the quality of applicant training.

The types of training according to the curriculum are lectures, practical classes, independent work (IW).

The topics of the lectures reveal the problematic issues of the relevant sections of the infectious pathology. During the lectures various didactic tools are used – multimedia presentations, educational movies, slides, tape recorders, demonstration of patients. Lecture and practical stages of the stadying of applicants for higher medical education are formed in such a sequence in which topics of lectures are preceded by practical classes.

According to the methodology of the organization the Practical classes are clinical and include:

1. Examination of patients with infectious diseases, which is carried out according to a algorithm.
2. Consideration of theoretical questions and acquisition of practical skills according to standard lists for each practical session and during the final module control.
3. Analysis of archived medical records.
4. Solving situational tasks.
5. Standardized test control, oral and written questioning.

Independent work (IW) takes a significant place in the study of discipline. In addition to the traditional preparation of applicants for higher medical education for practical classes and module control, as well as mastering the list of topics presented for IW, it includes the work of applicants for higher medical education in the clinic in the extra-curricular time with mastering practical skills, drawing up differential diagnosis schemes and algorithms for patients examination, preparing medical records. The effectiveness of the IW should be provided by the collaboration of applicants for higher medical education and teachers.

The assimilation of the topic is monitored during practical classes according to specific goals. The final module control is carried out upon completion of the study of all topics of the module during the last control lesson from the module.

It is recommended to use the following diagnostic methods of the applicant training level: computer testing, filling in the form, solving situational tasks, interpretation of laboratory tests, analysis and evaluation of the results of specific and instrumental methods of examination, control of practical skills, answers to standardized theoretical questions.

2.1. CONTENT OF THE PROGRAM

Module 1. *Clinical parasitology and tropical medicine.*

Content module 1. Clinical parasitology and tropical medicine. Parasitic diseases.

Topic 1. Features of infectious diseases in countries with tropical climates. Diseases of travelers, principles of prevention. Features of travelers' diarrhea. Protozoan intestinal invasions: amebiasis, balantidiasis, giardiasis (differential diagnosis).

Topic 2. Differential diagnosis of leishmaniasis. Differential diagnosis of trypanosomiasis. Malaria problems. Complicated forms of malaria. Treatment of malaria caused by resistant strains of pathogens. Modern prevention.

Topic 3. Other protozoal diseases: babesiosis, toxoplasmosis, pneumocystosis, cryptosporidiosis, isosporia, acanthoamebiasis. Leprosy. Monkeypox.

Topic 4. Worm infestations of tropical and subtropical regions: hookworm disease, clonorchosis, fasciolosis. Paragonimosis. Strongyloidiasis as an HIV-associated helminthiasis. Dracunculiasis.

Topic 5. Onchocerciasis, loaosis, vuchereriosis, brugiosis. Differential diagnosis of filariasis.

Topic 6. Differential diagnosis of schistosomiasis.
Topic 7. Zoonoses: sap, melioidosis, sodoku, streptobacillus, listeriosis, foot and mouth disease.

Content module 2. Clinical parasitology and tropical medicine. Diseases caused by viruses and those controlled by the International Health Regulations (IHR).

Topic 8. Arbovirus infections. Features of the clinical course. Hemorrhagic fevers: Ebola, Lassa, Marburg, dengue, chikungunya, South American hemorrhagic fevers. Phlebotomous fever. Encephalitis: Californian, Venezuelan, American equine, Japanese, Rift Valley. The concept of recurrent typhus.

Topic 9. Peculiarities of rickettsiosis: Rocky Mountain spotted fever, tsutsugamushi, endemic typhus, tick-borne typhus of North Asia. Fever Ku. Bartonellosis. Ehrlichiosis.

Topic 10. Infectious diseases included in the list of events that may constitute an emergency in the field of health care on an international scale and are subject to the International Health Regulations 2005. Pulmonary plague, yellow fever, West Nile fever.

Final modular control.

Control of theoretical and practical training.

Table 5

III. STRUCTURE OF THE DISCIPLINE (ELECTIVE COURSE)
«CLINICAL PARASITOLOGY AND TROPICAL MEDICINE»

Names of modules and topics	Number of hours											
	Full-time						External form					
	total	including					total	including				
		l	p	lab	ind	Iw.		l	p	lab	ind	Iw.
1	2	3	4	5	6	7	8	9	10	11	12	13
Module 1. *Clinical parasitology and tropical medicine.*												
Content module 1. Clinical parasitology and tropical medicine. Parasitic diseases.												
Topic 1. Features of infectious diseases in countries with tropical climates. Diseases of travelers, principles of prevention. Features of travelers' diarrhea. Protozoan intestinal invasions: amebiasis, balantidiasis, giardiasis (differential diagnosis).	12	-	2	-	-	10	-	-	-	-	-	-
Topic 2. Differential diagnosis of leishmaniasis. Differential diagnosis of trypanosomiasis. Malaria problems. Complicated forms of malaria. Treatment of malaria caused by resistant strains of pathogens. Modern prevention.	12	-	2	-	-	10	-	-	-	-	-	-
Topic 3. Other protozoal diseases: babesiosis, toxoplasmosis,pneumocystosis, cryptosporidiosis, isosporia, acanthoamebiasis. Leprosy. Monkeypox.	12	-	2	-	-	10	-	-	-	-	-	-
Topic 4. Worm infestations of tropical and subtropical regions: hookworm disease, clonorchosis, fasciolosis. Paragonimosis. Strongyloidiasis as an HIV-associated helminthiasis. Dracunculiasis.	12	-	2	-	-	10	-	-	-	-	-	-
Topic 5. Onchocerciasis, loaosis, vuchereriosis, brugiosis. Differential diagnosis of filariasis.	12	-	1	-	-	11	-	-	-	-	-	-
Topic 6. Differential diagnosis of schistosomiasis.	12	-	1	-	-	11	-	-	-	-	-	-
Topic 7. Zoonoses: sap, melioidosis, sodoku,	12	-	2	-	-	10	-	-	-	-	-	-

streptobacillus, listeriosis, foot and mouth disease (FMD).												
together with the content module 1.	84	-	12			72						
Content module 2. *Clinical parasitology and tropical medicine. Diseases caused by viruses and those controlled by the International Health Regulations (IHR).*												
Topic 8. Arbovirus infections. Features of the clinical course. Hemorrhagic fevers: Ebola, Lassa, Marburg, dengue, chikungunya, South American hemorrhagic fevers. Phlebotomous fever. Encephalitis: Californian, Venezuelan, American equine, Japanese, Rift Valley. The concept of recurrent typhus.	12	-	2	-	-	10	-	-	-	-	-	-
Topic 9. Peculiarities of rickettsiosis: Rocky Mountain spotted fever, tsutsugamushi, endemic typhus, tick-borne typhus of North Asia. Fever Ku. Bartonellosis. Ehrlichiosis.	12	-	2	-	-	10	-	-	-	-	-	-
Topic 10. Infectious diseases included in the list of events that may constitute an emergency in the field of health care on an international scale and are subject to the International Health Regulations 2005. Pulmonary plague, yellow fever, West Nile fever.	12	-	2	-	-	10	-	-	-	-	-	-
together with the content module 2.	84	-	6			30						
Total	120	-	18			102	-	-	-	-	-	-

IV. TOPICS OF LECTURES IN THE DISCIPLINE (ELECTIVE COURSES) "CLINICAL PARASITOLOGY AND TROPICAL MEDICINE"

Not provided

Table 6

THEMATIC PLAN OF PRACTICAL CLASSES IN THE DISCIPLINE (ELECTIVE COURSES) «CLINICAL PARASITOLOGY AND TROPICAL MEDICINE»

No	TOPIC	hours
	Content module 1. *Clinical parasitology and tropical medicine. Parasitic diseases.*	
1.	Features of infectious diseases in countries with tropical climates. Diseases of travelers, principles of prevention. Features of travelers' diarrhea. Protozoan intestinal invasions: amebiasis, balantidiasis, giardiasis (differential diagnosis).	2
2.	Differential diagnosis of leishmaniasis. Differential diagnosis of trypanosomiasis. Malaria problems. Complicated forms of malaria. Treatment of malaria caused by resistant strains of pathogens. Modern prevention.	2
3.	Other protozoal diseases: babesiosis, toxoplasmosis, pneumocystosis, cryptosporidiosis, isosporia, acanthoamebiasis. Leprosy. Monkeypox.	2
4.	Worm infestations of tropical and subtropical regions: hookworm disease, clonorchosis, fasciolosis. Paragonimosis. Strongyloidiasis as an HIV-associated helminthiasis. Dracunculiasis.	2
5.	Onchocerciasis, loaosis, vuchereriosis, brugiosis. Differential diagnosis of filariasis.	1
6.	Differential diagnosis of schistosomiasis.	1
7.	Zoonoses: sap, melioidosis, sodoku, streptobacillus, listeriosis, foot and	2

	mouth disease.	
	together with the content module 1.	12
Content module 2. *Clinical parasitology and tropical medicine. Diseases caused by viruses and those controlled by the International Health Regulations (IHR).*		
8	Arbovirus infections. Features of the clinical course. Hemorrhagic fevers: Ebola, Lassa, Marburg, dengue, chikungunya, South American hemorrhagic fevers. Phlebotomous fever. Encephalitis: Californian, Venezuelan, American equine, Japanese, Rift Valley. The concept of recurrent typhus.	2
9.	Peculiarities of rickettsiosis: Rocky Mountain spotted fever, tsutsugamushi, endemic typhus, tick-borne typhus of North Asia. Fever Ku. Bartonellosis. Ehrlichiosis.	2
10.	Infectious diseases included in the list of events that may constitute an emergency in the field of health care on an international scale and are subject to the International Health Regulations 2005. Pulmonary plague, yellow fever, West Nile fever. Final module.	2
	together with the content module 1.	6
	TOTAL	**18**

V. TOPICAL PLAN OF INDEPENDENT WORK OF APPLICANTS FOR HIGHER MEDICAL EDUCATION IN THE DISCIPLINE (ELECTIVE COURSES) «CLINICAL PARASITOLOGY AND TROPICAL MEDICINE»

Table 7

No	TOPIC	hours
1.	*Preparation for learning new material*	102
TOTAL		102

VII. TEACHING METHODS

Among the teaching methods in the study of the discipline (elective course) «Clinical Parasitology and Tropical Medicine» depending on the stage of training use the method of preparation for the study of new material and the study of new material, its consolidation in the form of questions for self-control and the method of explaining the material by the teacher under the direct guidance of the teacher where explanatory-illustrative, reproductive, partial-search, research methods can be used, and independent work, where the teacher's guidance is indirect.

VIII . CONTROL METHODS

Among the basic methods of control in practical classes after self-study of new material for its consolidation are used tasks in the form of control exercises with their assessment (primary, current, border), which depending on the form of conduction can be: oral questioning (both individual and frontal), or written, or with the help of computer programms, or test, or practical control. Contemporary technologies may include situational modeling (role-playing, games, etc.) or algorithmic / standardization technologies. Interactive methods can include: the method of analysis of specific, problematic situations; method of group discussion; method of competing groups etc.

At the department, **the assessment of the applicant for higher medical education for work in the classroom is complex**, with the use of "four-point" system and includes theoretical knowledge, work with patients, practical skills.

Excellent - the applicant for higher medical education has deeply and steadily mastered the program material; exhaustively, consistently, competently and logically stadyes it. Answers closely relate theory to practice; freely reads results of analyzes and instrumental research and solves situational tasks of increased complexity; properly acquainted with the basic literature and methods of research of the patient in the volume necessary for practical activity of the doctor; demonstrates the ability to relate theoretical aspects of the subject to practical health care.

Good - the applicant for higher medical education properly knows the program material, is competent and essentially stadyes it; has no significant inaccuracies in the answers to the questions; correctly applies theoretical provisions in solving practical tasks; has the necessary skills and techniques for their implementation; is able to solve light and medium difficulty situational tasks; possesses laboratory and clinical research methods in excess of the required minimum; is able on the basis of the specific content of the answer to show sufficiently logical thinking.

Satisfactory - the applicant for higher medical education knows only the basic material, but has not mastered it in detail, has inaccuracies, insufficiently correct wording, violation of the sequence in the coverage of program material. The applicant for higher medical education is only able to solve the most light tasks, have only a mandatory minimum of research methods; insufficient knowledge of methodology, poor knowledge of basic principles of deontology.

Unsatisfactory - the applicant for higher medical education does not know much of the program material, makes significant mistakes, is not sure, performs practical work with great difficulty.

After completing the full course of the provided program (all classes completed and a academic medical history is defended, etc.), the applicant for higher medical education can not be approved to the final module control without appropriate knowledge and skills. The future physician should be erudite and cultured, have high moral qualities, be merciful and compassionate, constantly follow the rules of medical ethics and deontology.

Independent work of applicants for higher medical education, which is provided in the subject along with the classroom, is evaluated during the ongoing control of the topic in the relevant lesson. The assimilation of topics that are presented only for independent work is controlled during the exam.

Individual work in the form of writing a scheme of differential diagnosis of infectious exanthema and algorithm for examination of a patient with prolonged fever is performed by the applicants for higher medical education during the study of topics. Applicants for higher medical education can rework the missed topics with the teacher during their consultations (individual work with the applicants for higher medical education) no more than 3 times during the study of the discipline, thereby scoring at least a minimum to be admitted to the total modular control.

IX. POINTS CALCULATION SCHEME

Mark in the discipline «Clinical Parasitology and Tropical Medicine», that is presented by one module, is rating and is defined as the sum of the marks for current educational activity (in points), which is exposed at each practical lesson on the relevant topic, a point mark for the performance of individual work by an applicant for higher medical education and the mark for the final module control (in points), which is given when evaluating theoretical knowledge and practical skills in accordance with the lists defined by the discipline program.

The current educational activity of applicants for higher medical education is evaluated on a 4-point (traditional) scale, using the criteria of assessment for the discipline «Clinical Parasitology and Tropical Medicine» approved by the cycle methodical committee on therapeutic

disciplines. This takes into account all types of work provided by methodical development for the planned topic.

Current control is carried out at each practical training according to the specific objectives of the topic and includes standardized forms of control of theoretical training and control of professional skills. Current control includes assessment of the initial level of knowledge (oral or written express survey, test control using test tasks of format A), assessment of the main stage of the practical training (control of professional skills during patients curation, solving typical situational tasks), assessment of the final level of knowledge at the lessons (solving level III situational tasks, interpretation of laboratory and other methods of patient examination).

Evaluation of current educational activities.

During the assessment of mastering of each topic for the current educational activity, the applicants for higher medical education are given grades on a 4-point (traditional) scale, taking into account the approved evaluation criteria for the respective discipline. This takes into account all types of work provided by the curriculum. Applicants for higher medical education should receive a grade on each topic. Forms of assessment of current learning activities should be standardized and include control of theoretical and practical training. Traded scores are converted into points. The maximum number of points that an applicants for higher medical education can receive for their current educational activity in the study of discipline is 200 points. The minimum number of points that an applicants for higher medical education must receive for their current educational activities to enroll in the discipline is 120 points.

Assessment of success in the discipline is given only to those applicants for higher medical education who have attended all the lessons in the discipline. The mark obtained by the applicants for higher medical education from the discipline is defined as the arithmetic mean of all the lessons of the discipline (by the formula given). The objectivity of evaluating the stadying activities of applicants must be verified by statistical methods (the correlation coefficient between current performance and the results of final control). The maximum number of points that a applicants for higher medical education can receive in the current semester to be approved to final control is 120 points. The minimum number of points that applicants for higher medical education must receive for the current academic activity per semester is 72 points.

The calculation of the number of points is made on the basis of the scores obtained by the applicant on the traditional scale during the study of the discipline, by calculating the arithmetic mean (CA), rounded to two decimal places. The resulting value is converted to scores on a multi-scale as follows:

$$\frac{x = \text{CA} \times 120}{5}$$

For convenience, the table is calculated on a 200-point scale:

Recalculation of the average score for current activity into a multi-scale for disciplines finishing with the differential module.

Table 8

4 - point scale	**200 - point scale**								
5	120	4.54	109	4.08	98	3.62	87	3.2	77
4.95	119	4.5	108	4.04	97	3.58	86	3.16	76
4.91	118	4.45	107	3.99	96	3.54	85	3.15	
4.87	117	4.41	106	3.95	95	3.49	84	3.12	75
4.83	116	4.37	105	3.91	94	3.45	83	3.1	
4.8	115	4.33	104	3.87	93	3.41	82	3.08	74
4.75	114	4.29	103	3.83	92	3.37	81	3.04	73
4.7	113	4.25	102	3.79	91	3.33	80	3	72

4.66	112	4.2	101	3.74	90	3.29	79	Less 3	not enough
4.62	111	4.16	100	3.7	89	3.25	78		
4.58	**110**	**4.12**	**99**	**3.66**	**88**	**3.22**			

Independent work of applicants, which is provided in the subject along with the classroom, is evaluated during the current control of the topic in the relevant lesson.

Individual work in the form of abstracts writing according to the proposed list of topics on new methods of diagnosis or treatment of infectious diseases that are included in the program, is performed by the recipients for content modules 1-5, respectively.

The maximum amount of points that an applicants for higher medical education can obtain during studying the module is 200 points, including for the current educational activity - 72 to 120 points, according to the results of the final module control – 48 to 80 points.

The minimum amount of points that an applicants for higher medical education must earn for their current stadying activities when studying a module is 72 points and is determined by multiplying the number of topics of the module by the equivalent score for a "satisfactory" rating by the given formula.

The final grade in the discipline is set on a two-level scale: a total of 120 points or more - "credited"; a total of 119 points and less - "not credited".

Methodical support:

- working curriculum (program) of the discipline (elective course);
- plans of practical classes and independent work of students;
- methodical recommendations and developments for the teacher;
- methodical instructions for practical classes for applicants;
- test and control tasks for practical classes;

COMPLIANCE WITH THE CODE OF ACADEMIC INTEGRITY

During the study of the discipline, students of the second educational and scientific level in medicine must adhere to the Code of Academic Integrity of Kharkiv National University named after V.N. Karazina. For this purpose of performance of independent work, control works, work on offset has to be carried out individually. When doing independent work, applicants can consult with teachers and other applicants, but must do the task themselves, guided by their own knowledge, skills and abilities. References to all resources and resources used by the applicant in the performance of tasks must be clearly defined and designed in accordance with existing rules and standards. In the case of joint work with other applicants on the tasks, the applicant must indicate the degree of his involvement in the work.

LIST OF QUESTIONS FOR THE CREDIT

1. Helminthiasis (general characteristics). The concept of helminthiasis and parasitic infections. Classification.
2. Acute and chronic forms of parasitic and tropical diseases. Nonspecific and specific mechanisms of macroorganism protection.
3. Enterobiasis (pinworm). Etiology, life cycle, main properties of the pathogen. Clinical manifestations. Treatment: principles and means of therapy. Prevention.
4. Trichocephaly. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
5. Ascariasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
6. Hookworm. Properties of the pathogen. Epidemiology. Pathogenesis. Clinical manifestations. Treatment. Prevention.
7. Strongyloidiasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
8. Trichinosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment.
9. Dranculosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
10. Filariasis. General characteristics. Biology of the pathogen.
11. Wuchereriosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
12. Brugiosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
13. Onchocerciasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
14. Loaoz. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
15. Acanthocheilonematosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
16. Mansonellosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
17. Heartworms. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
18. Diphyllobotriasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
19. Teniarinhoz. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
20. Teniosis and cysticercosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
21. Hymenolipidosis, alveococcosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
22. Echinococcosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
23. Opisthorchiasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
24. Clonorchosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
25. Fasciolosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
26. Fasciolopsidosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.

27. Metagonimosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
28. Heterophysis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinic. Treatment. Prevention.
29. Paragonimosis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
30. Schistosomiasis. Etiology. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
31. Malaria. Etiology. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
32. Amoebiasis. Etiology. Epidemiology. Pathogenesis. Clinical manifestations. Treatment. Prevention.
33. Giardiasis. Etiology. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
34. Leishmaniasis. Visceral leishmaniasis. Cutaneous leishmaniasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction. Clinical manifestations. Treatment. Prevention.
35. Trypanosomiasis. African trypanosomiasis. American trypanosomiasis. Etiology. properties of the pathogen. Epidemiology. Pathogenesis: penetration of the pathogen, reproduction.

IX. RECOMMENDED LEARNING SOURCES:

MAIN

1. Infectious Diseases: textbook / O.A. Holubovska, M.A. Andreichyn, A.V. Shkurba et al. Medicine Publishing: 2018. –662p.
2. Infectious diseases: classification, diagnostic, schemes and treatment: study aid / M. Chemych, M. Andreychyn, N. Il'yina, V. Zakhlebayeva, I. Trotska. – Sumy State University, 2011. – 270 p.
3. HIV-infection: a tutorial for medical applicants for higher medical education / O.A. Golubovska, O.Gudzenko, I/ Shestakova Medicine Publishing: 2011. –288p.

ADDITIONAL

1. Walter R. Wilson, Merle A. Sande. Current diagnosis and treatment in infectious diseases. - Mc Graw Hill, New-York, 2001. - 979 p.
2. Tropical infections : synopsis of lectures to lab. classes : handb. for stud. of higher med. schools / I. L. Dikiy et al. ; Nat. univ. of pharmacy. - Kharkiv : NUPH : Golden Pages, 2010. - 77 p.

Information resources

1. Textbooks and Tutorials.
2. Educational and methodical materials of the department.
3. Visual materials for practical classes (tables, diagrams, algorithms, stands, albums, etc.).
4. Educational portal of higher educationhttp://www.osvita.org.ua/.
5. AIDS Clinical Society**:** https://www.eacsociety.org/
6. Clinical Practice guidelines: https://www.journal-of-hepatology.eu/content/collection_cpg
7. Open educational platforms:
   - https://www.coursera.org/learn/bacterial-infections/
   - https://www.coursera.org/learn/aids-fear-hope/
   - https://www.coursera.org/learn/ebola-essentials-for-health-professionals/
   - https://www.coursera.org/course/parasitology
   - https://www.khanacademy.org/science/health-and-medicine/infectious-diseases

- https://www.edx.org/course/lessons-ebola-preventing-next-pandemic-harvardx-ph557x
- https://www.khanacademy.org/science/health-and-medicine/infectious-diseases
- https://www.coursera.org/course/virology
- https://www.coursera.org/course/virology2
- https://www.coursera.org/learn/ebola-essentials-for-health-professionals/
- https://www.coursera.org/course/parasitology

8. Official site of the Ministry of Health of Ukraine: http://www.moz.gov.ua
9. WHO official site: http://www.who.int
10. Centers for Disease Control and Prevention (CDC) http://www.cdc.gov/
11. http://www.atlas-protozoa.com/
12. http://www.freebooks4doctors.com/