

Tehran University of Medical Sciences
School of Public Health
Department of Medical Parasitology and Mycology
Ph.D. in Medical Parasitology

School of Public Health

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Title: Medical Parasitology

Degree: Ph.D.

Duration: 44.5 years

Introduction

1 The definition of the course and relevant level

A Ph.D. degree in Medical Parasitology is the highest level of education and is an old field that deals with parasitic animal species, mostly live in or on the human body and cause infection or diseases which are dangerous to human health and life. Some of the parasites cause common diseases among humans and animals.

2 The history of the course

Medical Parasitology is an old course that scientists and researchers have been studying on parasitic diseases. Sheikh Abu Ali Sina (Avicenna) about one thousand years ago, observed a number of parasites in the human body. He defined some of them (such as worms) which were visible by the eye. Also, Avicenna noted signs of some parasitic diseases that their agents were not visible at that time. Parasitic diseases are important among other infectious diseases because despite many efforts to combat them in the

world are still causing mortality and irreparable difficulties in human society.

3 The values and beliefs

Several studies were performed in various fields of parasitic diseases by using new technologies and advanced sciences such as Taxonomy, Immunology, Biochemistry, Epidemiology, Biotechnology, Pharmacology, and Genetics. They helped not only to identify parasites, pathogenesis, diagnosis, treatment, and control of some parasitic diseases but also illustrated the importance of a number of

other parasitic diseases, including emergence and reemergence diseases. The importance of scientific progress in the field of parasitic diseases in the world shows the need of developing educational programs for the training of Ph.D. in Medical Parasitology in the country. Also, this important subject is necessary and should be noted in the training of specialists for health services research in this course.

4 Mission

The mission of the program Parasitology Ph.D. degree is the training of experts and specialists in this course of the basic medical sciences. These people do activities and give services to promote scientific research and education in Medical Parasitology. On the other hand, the effort in solving the problems of parasites for the maintenance of health.

5 Vision

The graduates of this course will be able to use the most modern achievements of science and related fields in Medical Parasitology for training and research programs, health services, and laboratory activities. They can use their information, skills, and creativity in problem solving and problems in the field of identifying parasites parasitic agents and laboratory diagnosis, prevention, and control of diseases caused by them.

6 General purpose

- (A) Training of specialists, researchers, and teachers to perform the duties of

teaching, research, and service in the field of Medical Parasitology for medical universities and other institutions of higher education, research, and services in the country.

(B) Training experts in the collection, evaluation, innovation, production, development, and transfer of science and technology in the field of Medical Parasitology and related disciplines will be formidable.

7. The role of graduates

1. Servicing
2. Educational
3. Research

8 Graduates' professional tasks:

8-1 Servicing:

Cooperation with executive institutes and services in identifying, combating, and control of parasitic diseases.

Report the results of studies and projects carried out to the executive managers to use in the prevention, diagnosis, treatment, and control of parasitic diseases.

Evaluation of operations executive health programs in the field of prevention and control of parasitic diseases.

8-2 Educational:

Participation in planning and developing courses of parasitology at different levels of academic education.

Participation and monitoring of the implementation and evaluation of educational programs at the Medical Parasitology training courses.

Organization and management of teaching and working with clinicians and other clinical and laboratory sciences.

Teaching theoretical and practical courses of Medical Parasitology in postgraduate, General Doctorate of Medical Sciences, undergraduate and postgraduate courses, Laboratory Sciences Technicians and BS.c.

8-3 Research:

The organization and management of research.

Design and conduct research projects and participate in action planning.

Cooperation with other specialists and researchers in the field of research.

Regarding the parasitic diseases' problems in the selection of basic and applied research projects.

Establishment of practical techniques in the identification of pathogenic human parasites and laboratory diagnosis of parasitic infections.

9. Operational strategies of educational programs:

Strategies of Curriculum Ph.D. Parasitology is as follows:

Teach both theoretical and practical laboratories to train the people who will be experts in these fields.

Selection of different topics in the field of Medical Parasitology and related courses for each of the students to study and report on the seminar.

Selection of topics in the field of Medical Parasitology for practical laboratory projects, the performance of it by students, and report its results in a scientific article.

Active participation of students in conferences of parasitology and related courses.

Student use of electronic networks, websites, books, and scientific articles related to the field of parasitology and related courses.

Participation of students for education, research, and service laboratory in the Department of Parasitology in their university of medical sciences.

10. The conditions and admission of students:

Having the general conditions for admission to Ph.D. students based on the terms and conditions of the High Council for Medical Sciences.

Masters degree holders in one of the courses of Medical Parasitology, Laboratory Medicine, Pathology, Medical Microbiology, Immunology, Medicine, GP (Medicine and Pharmacy), DVM, Laboratory Sciences can entrance the exam of this Ph.D. course.

Table A: Compensatory courses for Ph.D. in Medical Parasitology

No.	Course Title	Theory		Practical		Total		Prerequisite course code
		Unit	Time	Unit	Time	Unit	Time	
1	Human Anatomy	1.5	26	0.5	17	2	43	
2	Zoonotic Parasites	2	34			2	34	11, 12,13,14
3	Medical Entomology	1	17	1	34	2	51	
4	*Medical Information Systems	0.5	9	0.5	17	1	26	
5	Biostatistics Methods	2	34			2	34	
6	Clinical Biochemistry	1	17	1	34	2	51	
7	Human Histology	1	17	1	34	2	51	
8	Immunology 2	1	17	1	34	2	51	
9	Principles of Epidemiology	2	34			2	34	
10	Laboratory Animals & its Application in Parasitology	0.5	9	0.5	17	1	26	
11	Protozoology (1)	2	34	1	34	3	68	
12	Helminthology (1)	2	34	1	34	3	68	
13	Protozoology (2)	2	34	1	34	3	68	
14	Helminthology (2)	2	34	1	34	3	68	
15	Applicable Biostatistics & Utilization of Computer in Health Data Analysis	1.5	26	0.5	17	2	43	
16	Introductory Hematology	1	17	1	34	2	51	
17	Human Histology	1	17	1	34	2	51	
18	Cellular & Molecular Biology	2	34			2	34	
19	Introductory Bacteriology	1	17	1	34	2	51	
20	Introductory Medical Mycology	1	17	1	34	2	51	
Total		27.5		14.5		42		

Code Nos. 03 to 20 are in accordance with compensatory and core courses headings of the latest approved curriculum of M.Sc. of Parasitology.

The student requires to pass a Maximum of 12 units of compensatory courses (Table 1) by the decision of the department and confirmation of the University Postgraduate Committee.

*All students are required to pass this course as a compensatory course if they have not passed it during M.Sc.

Table B: Core courses for Ph.D. in Medical Parasitology

No.	Course Title	Theory		Practical			Total		Prerequisite course code
		Unit	Time	Unit	Time	Training	Unit	Time	
21	Clinical & Diagnostic Hematology	1	17	1	34		2	51	16
22	Physiology of Parasites	2	34				2	34	
23	Applicable Immunoparasitology	1	17	1	34		2	51	8,11,12,13,14
24	Histopathology of Parasitic Infections	1	17	1	34		2	51	11,12,13,14,17
25	Advanced & Applicable Biochemistry in Medical Parasitology	1	17	1	34		2	51	6

26	AdvancedApplicable & Research Protozoology	0.5	9	1.5	51		2	60	11,13
27	Advanced–Applicable & Research Helminthology	0.5	9	1.5	51		2	60	12,14
28	Principles of Biotechnology & its Application in Parasitology	1	17	1	34		2	51	18
29	Advanced & Applicable Epidemiology	2	34				2	34	5 , 9
30	Clinical & Diagnostic Parasitology	1	17	1	34		2	51	11, 12, 13, 14
31	Taxonomy of Parasites & Utilization of Conventional and New Techniques in Identification & Classification of Parasites	1.5	26	0.5	17		2	43	6,8,11,12,13,14,16,20,25
32	Training				136	2	2	136	

33	Project & Seminar **	2	34				2	32	
Total		14.5		9.5			2	26	

Table C: Non-Core Courses for Ph.D. in Medical Parasitology

No.	Course Title	Theory		Practical		Total		Prerequisite course code
		Unit	Time	Unit	Time	Unit	Time	
34	Parasite, Nutrition & Food Health	2	34			2	34	
35	Pharmacology of AntiParasitic Drugs	2	34			2	34	11,12,13,14
36	Electron Microscopy	1.5	26	0.5	17	2	43	
37	Practical Bacteriology			2	68	2	68	19
38	Advanced & Applicable Mycology	1	17	1	34	2	51	20
39	Principles of Malacology & conflict Management	1	17	1	34	2	51	
Total		7.5	128	4.5	153	12	281	

The student requires to pass 4 units of the above courses (Table C) in accordance with the thesis Subject, by agreement of the supervisor and confirmation of the university Postgraduate Committee