In the Name of God

Islamic Republic of Iran
Ministry of Health and Medical Education
Deputy Ministry for Education

Medical Parasitology

Doctor of Philosophy (PhD)

Total Course Credits

- Compensatory: 12
- Core: 14.5
- Non-core (Electives): 7.5
- Dissertation (PhD) : 20

Program Description

PhD degree in Medical Parasitology is the highest level of education and is an old field dealing with parasitic animal species, mostly living in or on the human body and causing infections or diseases which are dangerous for human health and life. Some of the parasites cause zoonotic diseases.

Medical Parasitology is an old discipline focusing on parasitic diseases studied by scientists and researchers. Avicenna, about one thousand years ago, observed a number of parasites in the human body. He described some of them (such as worms) which were visible by naked eyes. Avicenna also noted signs of some parasitic diseases whose agents were not visible at that time. Parasitic diseases are important among other infectious diseases because despite many efforts to combat them, they are still causing mortality and irreparable difficulties in human societies worldwide.

Several studies were performed in various areas of parasitic diseases by using new technologies and advanced sciences such as taxonomy, immunology, biochemistry, epidemiology, biotechnology, pharmacology and genetics. They helped identify parasites, pathogenesis, diagnosis, treatment, and control of some parasitic diseases and illustrate the importance of a number of parasitic diseases including immergence and reemergence diseases. The widespread scientific progress in the field of parasitic diseases entails the need for developing educational programs and training PhD graduates in Medical Parasitology in the country. Training specialists who will contribute to health research is also of prime importance in this program.

The mission of this PhD program is to train experts and specialists in basic medical sciences. The graduates will perform activities and give services to promote scientific research and education in Medical Parasitology. Moreover, they endeavor to promote human health by removing the harms caused by parasites.

The graduates of this program will be able to use the most recent achievements, in science and related fields in Medical Parasitology, for training and research programs, health services and laboratory activities. They will be able to use their knowledge, skills and creativity in solving problems in the field and for identifying parasites, parasitic agents, and laboratory diagnosis, prevention and control of diseases caused by parasites.
The aims of the program are:

- Training specialists, researchers and teachers to teach, conduct research studies and provide services in the field of Medical Parasitology in medical universities, institutions of higher education, and research centers in the country
- Training experts who will be engaged in collecting, evaluating, producing, innovation, development and transfer of science and technology

Admission Requirements

General conditions for entering this PhD program are based on the terms and conditions specified by High Council for Medical Sciences.
Master's degree holders in one of the fields of Medical Parasitology, Laboratory Medicine, Pathology, Medical Microbiology, Immunology, Medicine, GP (Medicine and Pharmacy), DVM, and Laboratory Sciences can apply to participate in entrance exam of this Ph.D program.

Expected Competencies at the End of the Program

General Competencies*

Specific Competencies and skills

Professional tasks of graduates

- Cooperating with executive institutes in identifying, combating and controlling parasitic diseases
  Reporting results of studies and projects carried out to be used in the prevention, diagnosis, treatment and control of parasitic diseases
- Evaluating operational health programs in the areas of prevention and control of parasitic diseases
  Planning and developing courses of parasitology at different levels of academic settings
  Monitoring the implementation and evaluation of educational programs of Medical Parasitology training courses
- Organizing and managing teaching and working with clinicians and other clinical and laboratory staff
  Teaching theoretical and practical courses of Medical Parasitology in postgraduate, General Doctorate of Medical Sciences, undergraduate and postgraduate courses, and associate degree of Laboratory Sciences
- Organization and management of research
  Design and conduct of research projects and participation in action planning
- Cooperation with other specialists and researchers
  Selection of basic and applied research projects focusing on parasitic diseases
- Establishment of practical techniques in identifying pathogenic human parasites and laboratory diagnosis of parasitic infections

Educational Strategies, Methods and Techniques

Student Assessment (Methods and Types)

- Formative (quizzes and Midterm Exam)
- Summative (Final Exam)
- Oral and written exams, logbook, observation, clinical competence assessment

Ethical Consideration*

*Note: The related document(s) can be found at http://hemep.behdasht.gov.ir/.

Tables of the Courses

Table 1. Compensatory Courses

No.	Title of Course	Theoretical		Practical		Total		Prerequisite and concurrent courses
		Number of Credits	Teaching Hours	Number of Credits	Teaching Hours	Number of Credits	Teaching Hours	
	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 &their 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		

- Codes 03 to 20 are in accordance with compensatory and core course headings of the latest approved curriculum of M.Sc. of Medical Parasitology.

- Students are required to pass a maximum of 12 credits of compensatory courses (Table 1) as specified by the department and confirmed by the University Postgraduate Council.
  *All students are required to pass this course as a compensatory course, if they have not passed it during M.Sc. program.

Code of the course	Title of the Course	Theoretical		Practical			Total		Prerequisite or concurrent courses
		Number of Credits	Teaching Hours	Number of Credits	Teaching Hours	Training	Number of Credits	Teaching Hours	
21	Clinical and 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	Advanced-Applicable & 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	34	-
Total		14.5		9.5		2	26		

Table 2. Core Courses

Table 3. Non-Core Courses

Students are required to pass 4 credits of below courses (Table 3) in line with their dissertation topic, and as approved by the supervisor and confirmed by the University Postgraduate Council.

Code of the Course	Title of the Course	Theoretical		Practical		Total		Prerequisite and concurrent courses
		Number of Credits	Teaching Hours	Number of Credits	Teaching Hours	Number of Credits	Teaching Hours	
34	Parasite, Nutrition & Food Health	2	34	-	-	2	34	-
35	Pharmacology of Anti- Parasitic 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	Malacology &control	1	17	1	34	2	51	-
Total		7.5	128	4.5	153	12	281	

Jamshid Hajati PhD
Secretariat of the Council for Education of Health and Basic Medical Sciences (Undergraduate and Postgraguate)

Seyed Mansour Razavi MD
Secretary of the Supreme Council for Medical Sciences Planning

Bagher Larijani MD
Deputy for Education
Ministry of Health and Medical Education