

In the Name of God

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

Medical Mycology Doctor of Philosophy (PhD)

Total Course Credits: 50

Core: 25

Noncore: 5

Dissertation: 20

Program Description

The field of Medical Mycology is a branch of the medical sciences whose PhD graduates learn more about physiology, pathogenesis, histopathology, immunology and biology of the fungi and diseases caused by them; it helps in the diagnosis, treatment and preventing these diseases.

The graduates help in propagating theoretical and practical aspects of the field, advance the frontiers of knowledge by preparing research literature as well as innovations and promote public health by providing laboratory diagnostic and consultative services at the highest level.

Admission Requirements

A master's degree (MSc) in one of the fields of medical mycology, bacteriology, parasitology, pathobiology, microbiology or general doctorate in one of the fields of Medicine, Pharmacy or professional doctorate in the Laboratory Sciences awarded by one of the home universities or those in other countries and approved by the Ministry of Health, Treatment and Medical Education.

- Being eligible to entering the course as stipulated in the PhD educational rules and regulations.

*Important note: These general conditions do not necessarily exclude specific conditions of each institute or university.

Expected General and Specific Competencies at the End of the Program

General Competencies*

Specific Competencies and Skills

The Graduate of this course will be able to take educational responsibilities, conduct research and provide expert and consulting services related to the field of mycology.

In **education**, contributing to teaching mycology to students of various fields according to the universities needs.

In **research** designing, implementing and evaluating basic and applied research in various contexts of the related fields.

In **providing expert services** for the laboratory diagnosis of mycoses using standard and ingenious methods.

In **providing consulting services**, cooperating and rendering consultations on controlling hospital infections

- Keeping the physical and psychological setting healthy, including the workplace sanitation
- Using specialized equipment

- Working in professional environments
- Handling animals skillfully
- Interpreting test results

Educational Strategies, Methods and Techniques*

Student Assessment

Formative and summative and the comprehensive exam, monitoring the progress and completion of the dissertation are common practice. Residents will also be evaluated by the written and oral exams, OSLE* and logbook-based assessment

Ethical Considerations*

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

Tables of the Courses

Table 1. Compensatory Courses

Code of the Course	Title of the Course	Credits					Teaching Hours					Prerequisite or Simultaneous Course
		Theoretical	Practical	Clinical Training	Clinical Practice	Total	Theoretical	Practical	Clinical Training	Clinical Practice	Total	
01	Research Methods in Health Sciences*	2	1	-	-	3	34	34	-	-	68	-
02	Advanced Biostatistics	3	3	-	-	6	51	102	-	-	153	-
03	Epidemiology and Principles of Prevention of Diseases	2	2	-	-	4	34	68	-	-	102	04, 07
04	Care and Use of Laboratory Animals	2	1	-	-	3	34	34	-	-	68	-
05	Immunology of the Fungal Diseases	2	1	-	-	3	34	34	-	-	68	-
06	Fundamentals of Medical Mycology	2	2	-	-	4	34	68	-	-	102	07
07	Superficial and Cutaneous Fungal Diseases	3	2	-	-	5	51	68	-	-	119	04
8	Subcutaneous and Mucosal Fungal Diseases	3	1	-	-	4	51	34	-	-	85	-
9	Visceral Fungal Diseases	2	2	-	-	4	34	68	-	-	102	-
10	Hematology	3	1	-	-	4	51	34	-	-	85	-
11	Histology	2	1	-	-	3	34	34	-	-	68	-
12	Using Computer for Health Data Analysis	2	1	-	-	3	34	34	-	-	68	04, 05, 06, 09, 11
13	Medical Information Systems*	2	0.5	-	-	2.5	34	17	-	-	51	-
14	Cellular and Molecular biology	1	2	-	-	3	17	68	-	-	85	-
15	Genetics of Fungi	2	1.5	-	-	3.5	34	51	-	-	85	-
16	Medical Bacteriology	2	1	-	-	3	34	34	-	-	68	-
Total		58										

These courses are basic for the PhD candidates but have not been covered previously. Students should earn at least 16 compensatory course credits (Table 1) as specified by the Department of Education and approved by the Postgraduate Education Council. Completing these courses is obligatory for those who have not covered them before.

Table 2. Core Courses

Code of the Course	Title of the Course	Credits					Teaching Hours					Prerequisite or Simultaneous Course
		Theoretical	Practical	Clinical Training	Clinical Practice	Total	Theoretical	Practical	Clinical Training	Clinical Practice	Total	
17	Pathogenesis of Fungal Diseases	3	3	-	-	6	51	102	-	-	153	7,8,9,10
18	Physiology of the Fungi	2	2	-	-	4	34	68	-	-	102	-
19	Epidemiology of Fungal Diseases	2	2	-	-	4	34	68	-	-	102	-
20	Histopathology of Fungal Diseases	2	1	-	-	3	34	34	-	-	68	-
21	Immunomycology	3	2	-	-	5	51	68	-	-	119	-
22	Skin Diseases	2	1	-	-	3	34	34	-	-	68	-
23	Advanced and Applied Biochemistry in Mycology	3	1	-	-	4	51	34	-	-	85	-
24	Antifungal Drugs and their Mechanisms of Action	2	1.5	-	-	3.5	34	51	-	-	85	-
25	Diagnostics and Applied Mycology	2	-	-	-	2	34	-	-	-	34	7,8,9,10,18,19
26	Sanitizers, Disinfectants and Preservatives	1	1	-	-	2	17	34	-	-	51	-
27	Projects and Seminars	1	-	-	-	1	17	-	-	-	17	-
28	Clerkship in Laboratory	2	-	-	-	2	34	-	-	-	34	-
Total		32										

Table 3. Non-core Courses

Code of the Course	Title of the Course	Credits					Teaching Hours					Prerequisite or Simultaneous Course
		Theoretical	Practical	Clinical Training	Clinical Practice	Total	Theoretical	Practical	Clinical Training	Clinical Practice	Total	
29	Working with Electronic Microscopy	1	0.5	-	-	1.5	17	17	-	-	34	-
30	Bioinformatics	1	1	-	-	2	17	34	51	-	68	-
31	Biotechnology and Molecular Methods in Medical Mycology	2	1	-	-	3	34	34	68	-	68	-
32	Advanced Bacteriology	2	1	-	-	3	34	34	-	-	68	-
33	Fungi, Nutrition and Food Hygiene	1	1	-	-	2	17	34	-	-	51	-
34	Mycotoxins and Mycotoxicosis	1	1	-	-	2	17	34			51	
35	Advanced Protozoology	2	1	-	-	3	34	34			68	
Total		16.5										

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