

Course title:

Master of Science (M.Sc.) of Medical Microbiology

Course description:

Master of Science in Medical Microbiology is one of the medical degrees which should be passed by bachelor graduates of medical microbiology. This field should be considered as a postgraduate level for bachelor students of medical microbiology. Graduates of this major will be able to perform required activities such as conducting research, training students and performing relevant services in order to diagnose infections caused by microbes.

Course objectives:

Graduates of medical microbiology are expected to reach the following abilities:

- Performing relevant actions and services in order to diagnose infectious diseases in microbiology section of Medical Diagnosis Labs
- As an Instructor for Performing Theoretical and Practical Training in Field of Microbiology in Bachelor of Sciences and Associate Degree Levels in Medical Microbiology
- Working as a research assistant in research institutes of Medical Microbiology

Method of instruction

- Performing theoretical and practical training courses in order to gain relevant and required abilities and skills
- Doing continuous and steady student evaluation in training period of courses to ensure the continuous improvement of skills and knowledge
- Holding conferences, journal clubs and morning reports
- Doing continuous and steady student evaluation in research period of courses through holding thesis review meetings to ensure the continuous improvement of skills and knowledge
- Student Cooperation as an Associate Instructor and Trainer in Theoretical Training Courses and Practical Training and Workshops in Order to Improve Their Skills, Abilities and Performance

Course location:

- Library of Microbiology Department
- Microbiology laboratory
- Classrooms of Microbiology Department

Course duration and structure:

Must be in accordance with M.Sc. requirements approved by the supreme committee of planning.

Course title and units:

Below units must be passed by students during training period

A -Mandatory dedicated units	22
B- Optional dedicated units (Non-Core)	4
C- Thesis	6
Total	32

In addition to the abovementioned units, all or parts of supplementary units (as listed in table A) must be passed by students. Units should be picked based on the confirmation of department and university graduate committee

Table A: Compensatory courses

No.	Course	No. of Units	Hour			Prerequisites
			Theoretical	Practical	Total	
1	Anatomy	3	34	34	68	_____
2	Applied Biochemistry	3	17	68	85	_____
3	General Physiology	3	34	34	68	_____
4	General Genetics	2	34	–	34	_____
5	Working with Laboratory Animals	2	17	34	51	_____
*6	Research Methods in Medical Sciences	2	34	–	34	_____
*7	Medical Information Technology	2	17	34	51	_____
8	Biostatistics	3	51	–	51	_____
	Total	20				_____

*: These compensatory units must be passed by all students. All or parts of supplementary units (as listed in table A) must be passed by students. Units should be picked based on the confirmation of department and university graduate committee.

Table B: Core courses

No.	Course	No. of Units	Hour			Prerequisite
			Theoretical	Practical	Total	

9	Cellular & Molecular Biology of Eukaryotes & Prokaryotes	2	34	–	34	
10	Structure & Physiology of Microorganisms	2	34	–	34	
11	Genetics of Microorganisms	1	17	–	17	
12	Antibiotics & Anti microbial Agents	1	9	17	26	
13	Host-Microbial Interactions	1	17	–	17	
14	Systematic Bacteriology(1)	2	34	–	34	10
15	Systematic Bacteriology(2)	2	34	–	34	10
16	Molecular Diagnosis Bacteriology	2	–	68	68	9
17	Practical Bacteriology	2	–	68	68	
18	Medical Virology	4	51	34	85	
19	Seminar	1	–	–	–	
20	Internship in Hospital	2	–	102	102	17
21	Thesis	6	–	–	–	
		28				

Note:

- 1- All Students must present 3 seminar topics during each semester. They are coordinated by the tutors. Evaluating of these seminar topics will be considered as this course score.
- 2- Mandatory dedicated (core), voluntarily dedicated (non-core) and compensatory courses must be passed by students before thesis performance.

Table C: Non-core courses

Cod	Courses	units	Hours			Prerequisite
			Theoretical	Practical	Total	
22	Epidemiology	2	17	34	51	
23	Hematology	2	17	34	51	
24	Electron Microscopy	1	9	17	26	
25	Parasitology	2	17	34	51	
26	Mycology	2	17	34	51	
27	Immunology of Infectious Disease	3	34	34	68	
	Total	12				

Note:

Students must pass 4 units of optional dedicated courses (non-core) based on the department's schedule.