



Faculty of Medicine
Suez Canal University

Program Specifications

Master Degree of Microbiology and Medical Immunology

Code: **MCMC**



Program Specifications

A. Basic Information:

- **Program Title:** Master of Microbiology and Medical Immunology.
- **Program Type:** **Single** Double Multiple
- **Department(s) offering the program:** Microbiology and Medical Immunology Department.
- **Program coordinator(s):** Prof. Mohamed Elswiefy, Prof. Sahar Zakaria
- **Academic year/ Level:** Postgraduate studies.
- **Last date of programme specifications approval:** 2017
- **External reviewer:** Prof. Saied Abbadi
- **Number of credit points for this degree:** 120 CP

B. Professional Information:

1- Overall aims of the program:

- a) To provide the students with an understanding of the structure and protective functions of the immune system.
- b) To demonstrate a systematic understanding of the general features of bacteriology, virology and mycology.
- c) To demonstrate conceptual awareness of the role of human pathogens in the pathogenesis of common human infections.
- d) To prepare a microbiologist who is able to practice the basic skills in the laboratory diagnosis of different infectious agents.
- e) To provide a practical approach to the principles of sterilization and infection control.

2- Intended learning outcomes (ILOs):

(A) Knowledge and Understanding Teaching Assessment:

By the end of the program the students should be able to:



- a1. Describe the components of the immune system and their role in the immune response.
- a2. Explain the role of immune cells in the immune-pathogenesis of hypersensitivity reactions, autoimmunity and transplant rejection.
- a3. Identify basic features of bacterial morphology, physiology and genetics.
- a4. Understand the microbial pathogenesis of the common infections in the community.
- a5. Describe the morphology, culture, and antigenic structure and virulence factors of microorganisms of medical importance.
- a6. Describe the methods of sterilization and principles of infection control.
- a7. Describe the basics of antimicrobial uses and resistance.
- a8. Identify the basics of ethics and medico-legal aspects of professional practice related to the microbiology and immunology specialty.
- a9. Identify the basis and principles of quality assurance in professional practice related to the microbiology and immunology specialty
- a10. Identify the basis, methods and ethics of scientific researches.

(B) Intellectual Skills:

By the end of the program the students should be able to:

- b1. Evaluate according to evidence the causal relationship of microbes and diseases.
- b2. Formulate an approach for laboratory diagnosis of common infectious clinical conditions and their preventive measures.
- b3. Analyse knowledge to solve microbiology-related problems.
- b4. Solve microbiological problems with insufficient data.
- b5. Integrate different data and information to solve microbiological problems
- b6. Appraise a concise scientific activity according to standard scientific thinking.
- b7. Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.
- b8. Apply the basic principles of medical statistics.
- b9. Apply the procedures of research methodology.
- b10. Design a plan to improve performance in the immunology field.

(C) Professional and Practical Skills:

By the end of the program the students should be able to:

- c1. Prepare important culture media, stains and reagents.
- c2. Perform a Gram stain and a Ziehl-Neelsen stain and identify stained microorganisms according to morphology and characteristics.
- c3. Collect a specimen from the patient.



- c4. Perform conventional methods of microbiological diagnosis.
- c5. Calibrate and evaluate different instruments used in the microbiology laboratory.
- c6. Write a microbiological report.
- c7. Apply sterilization and disinfection measures.
- c8. Apply infection control measures.

(D) General and Transferable Skills:

By the end of the program, students should be able to:

- d1. Work in a team.
- d2. Manage team work, seminars, and scientific meetings.
- d3. Communicate ideas and arguments effectively
- d4. Specify the own educational needs
- d5. Use different resources to obtain knowledge and information.
- d6. Evaluate himself and other colleagues.
- d7. Acquire different computer skills.
- d8. Present different scientific issues.
- d9. Manage time effectively.
- d10. Acquire the ability of self and lifelong learning.
- d11. Teach effectively and act as a mentor to others.

3- Academic Standards:

(3.a) External References for Standards (Benchmarks):

- The generic Academic Reference Standards (ARS) of NAQAAE for Postgraduate (2009)

(3.b) Comparison of Provision to External References (attached)

4- Curriculum Structure and Contents

(4.a) Program duration: The program lasts for a minimum of 3 academic years and maximum 7 years, as specified in the internal bylaws for postgraduate studies based on credit points system in the Faculty of Medicine, Suez Canal University approved on February 7th, 2016.

(4.b) Program structure: Master Program Credit points (CP) structure:
Total needed credit points for getting the Master degree is **120 CP**.



The program consists of First part **30 CP**, Thesis **30 CP**, and Second part **60 CP**.

- A. The first part of the program: 30 CP**, its duration (15 weeks) for one academic semester. It includes:
- A course in Research Methodology planned by the Community Medicine Department, Faculty of Medicine, Suez Canal University. This part includes **4 CP**.
 - A course in Research Ethics planned by the Community Medicine Department, Faculty of Medicine, Suez Canal University. This part includes **2 CP**.
 - An academic course in Microbiology and Medical Immunology planned by the Microbiology and Medical immunology Department, Faculty of Medicine, Suez Canal University. This part includes **8 CP**.
 - A practical course in Microbiology and Medical Immunology planned by the Microbiology and Medical immunology Department, Faculty of Medicine, Suez Canal University. This part includes **4 CP**.
 - One course is chosen by the student from two courses:
 - A course in Biochemistry planned by the Biochemistry Department, Faculty of Medicine, Suez Canal University. This part includes **10 CP**.
 - A course in Clinical Pathology planned by the Clinical Pathology Department, Faculty of Medicine, Suez Canal University. This part includes **10 CP**.
 - One elective course; the student should select one elective course among six courses. This part includes **2 CP**.
- B. MD thesis: 30 CP**, no scores for thesis. The candidate has the right to register his/her thesis protocol after 6 months from the degree registration. The first time for thesis defence after 6 months from the date of the faculty council approval on the thesis protocol and passing the first part exam.
- C. The second part of the program: 60 CP**, its duration (75 weeks) for 5 consecutive academic semesters. This part lasts for 2 years ending by written and practical exams. The second part includes:
- A specialized academic course in Microbiology and Medical Immunology, planned and held in the Microbiology and Medical Immunology Department. It includes **30 CP**.
 - A specialized practical course in Microbiology and Medical Immunology, planned and held in the Microbiology and Medical Immunology Department. It includes **25 CP**.
 - Scientific activities in the field of Microbiology and Medical Immunology. This part includes **5 CP** but with no score.



(4.c) **No. of hours per week:** 2 CP per week which equivalent 50 hours per week, including lectures, tutorials, self-learning and hands-on training.

(4.d) **No. of credit Points:** the Master program is 120 Credit Points.

Every credit point include 25 working hour (30% = 7 hours for face to face learning activities, and 70% =18 hours for self-learning activities).

5-Program Courses

(5.1) Level/Year of Program: First part MD degree.

a. Compulsory:

Courses			Assessment				
Code No.	Course Title	No. of CP	Written Exam			Oral Exam	Practical Exam
			No of Papers	Duration	Marks		
RB	Research methodology and Biostatistics	4	1	2 hours	80	-	-
RE	Research Ethics	2	1	1 hour	40	-	-
MCMC01	Microbiology & Medical Immunology course	12	1	3 hours	140	20	80
MCMC02 / MCMC03	Biochemistry / Clinical Pathology course	10	1	3 hours	130	20	50
E	Elective Course*	2	1	1 hour	40	-	-
Total		30 credit points			600 marks**		

*E: The student should select two courses of the following elective courses:

E01	Evidence Based medicine	(Community Department)
E02	Scientific Writing	(Medical Education Department)
E03	Quality in Medical Education	(Medical Education Department)
E04	Infection Control	(Microbiology Department)
E05	Critical Appraisal	(Community Department)
E06	Communication Skills	(Medical Education Department)

Each elective course has 2 CP

**Every credit point equal 20 marks

(5.2) Level/Year of Program: Second part Master degree



a. Compulsory

Courses			Assessment					
Code No.	Course Title	No. of CP	Written Exam			Oral Exam	Practical Exam	Continues assessment *(Portfolio)
			No of papers	Duration	Marks			
MCMC04	Specialized course in Microbiology and Medical Immunology	55	2	3 hours for each paper	165 + 165	110	330	330
	***Scientific activities	5	-	-	-	-	-	-
Total		60 credit points			**1100 score			

*Portfolio scores distributed in the different parts of the portfolio and its total score included among the total mark of the second part

**Every credit point equal 20 marks

***Scientific activities are not included in the total marks.

(5.3) Thesis:

A faculty senior & junior supervisor from the staff members are nominated by the department council to prepare a proposal of the thesis protocol after the selection of a subject that is complementary to the research plans of the department. Data collection, methodologies, study question, time table, ethical considerations and budget are formulated by the candidate under guidance of his supervisors into a research project. The research protocol is then peer reviewed by two different staff members nominated by the Head of the department who share their ideas and comments with the supervisors to reach to the final form. The research protocol is discussed then openly in one of the department councils to be approved and diverted to the Faculty research committee where it is subjected to a critical appraisal to meet the research basic standards set by the committee. The final approvals of the research protocol are then issued by the committee of post graduate studies, the Faculty and University Council to be registered. The candidate has the right to register his/her thesis protocol after 6 months from the degree registration. The first time for thesis defence should be after 6 months from the date of the faculty council approval on the thesis protocol and passing the first part exam.

N.B. Thesis represents 30 credit points not included in the total mark for master degree.

6- Programme Admission Requirements:



- The program accepts candidates with Bachelor degree in Medicine and Surgery with minimum good or very good grade.
- Registration for the program opens 2 times per year according to the internal bylaws for postgraduate studies of the Faculty of Medicine, Suez Canal University.

7- Student Assessment Methods

- (7.1) Written (MEQ) exam to assess the cognitive domain.
- (7.2) MCQs to assess the cognitive domain
- (7.3) Oral exam to assess higher cognitive and attitude domains.
- (7.3) Practical exam to assess practical and presentation skills.
- (7.4) Portfolio to assess the cognitive, psychomotor and the affective domains.

8- Weighting of Assessments:

Total marks for master degree 1700

First part (30 CP = 600 mark)

- Written exam	430 marks
- Oral exam	40 marks
- Practical exam	130 marks
- Total	600 marks

Second part (60 CP including 5 CP not included in the total marks =1100 mark)

- Written exam	330 marks
- Oral exam	110 marks
- Practical exam	330 marks
- Portfolio	330 marks
- Total	1100 marks

Total of the Master degree 1700

9- Regulations for Progression and Programme Completion:

The regulations for program completion follow the regulations of Master degree of Microbiology and Medical Immunology in the Faculty of Medicine, Suez Canal University

First part

- Passing level 60% of total marks of the exam.
- Passing level 50% of the total written exam.



Second part

- Passing level 60% of total marks of the exam.
- Passing level 60% is prerequisite for Master degree.

Thesis/Assay

- Passing thesis defence is prerequisite for getting Master degree.

10- Evaluation of Program Intended Learning Outcomes (ILOs)

Evaluator	Tool	Sample
1- Postgraduate students	Needs assessment questionnaires	Random sample of participants
2- Alumni	Self-administered questionnaires	Comprehensive sample
3- Stakeholders	Self-administered questionnaires	Random sample
4- External Evaluator(s) External Examiner(s)	External audit of the program specifications	
5- Other		

Head of Microbiology and Immunology Department:

Prof. Mohamed Elweify