



Faculty of Medicine
Suez Canal University

Program Specifications

MD Degree of Microbiology and Medical Immunology

Code: **MCMC**



Program Specifications

A. Basic Information:

- **Program Title: MD 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 Elswify, Prof. Sahar Zakaria
- **Academic year/ Level:** Postgraduate studies.
- **Last date of program specifications approval:** 2017
- **External reviewer:** Prof. Saied Abbadi
- **Number of credit points for this degree:** 180 CP

B. Professional Information:

1. Overall aims of the program:

- 1) To provide the students with an understanding of the role of the immune system in the immune-pathogenesis of infectious and non- infectious diseases.
- 2) To demonstrate a systematic understanding of the specific features of bacteriology, virology and mycology.
- 3) To provide the students with conceptual awareness of the relationships between mankind and microorganisms with an ability to apply their knowledge to practice.
- 4) To prepare a qualified microbiologist who is able to practice new skills in the laboratory diagnosis of different infectious agents.
- 5) To provide a practical approach to the principles of sterilization and infection control.

2. Intended learning outcomes:

(A) Knowledge and Understanding Teaching Assessment:

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

- a1. Understand the protective role of the immune system.
- a2. Explain the immunopathogenesis of immune-mediated diseases.



- a3. Describe general bacterial morphology, physiology and genetics.
- a4. Describe the structural, cultural and biochemical properties of microorganisms of medical importance.
- a5. Recognize the microbial causes of the most important infectious clinical conditions and their laboratory diagnosis and preventive measures.
- a6. Describe the new methods of sterilization and disinfection.
- a7. Describe the new measures of infection control.
- a8. Understand the role of molecular technology in microbiological diagnosis.
- a9. Identify the basics of ethics and medico-legal aspects of professional practice related to the microbiology and immunology specialty.
- a10. Identify the basis and principles of quality assurance in professional practice related to the microbiology and immunology specialty
- a11. 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. Apply and improve new microbiological, serological and molecular tests.
- b2. Interpret microbiological, immunological and molecular reports.
- b3. Analyse knowledge to solve microbiology-related problems.
- b4. Solve microbiological problems with available data.
- b5. Integrate different data and information to solve microbiological problems
- b6. Select the most appropriate and cost-effective tool leading to the identification of the causative organism.
- b7. Design of a plan for prevention of different microbial infections.
- b8. Employ different methods of sterilization and infection control.
- b9. Appraise a scientific activity according to standard scientific thinking.
- b10. Appreciate the danger of handling and use of infectious agents on community and environment as a part of their ethical heritage.
- b11. Apply the basic principles of medical statistics.
- b12. Apply the procedures of scientific research methodology.
- b13. Design a Plan to improve performance in the microbiology and immunology field.
- b14. Learn the ability of being innovative and creative in the speciality of microbiology and immunology.
- b15. discuss different microbiological and immunological issues on basis and evidence

(C) Professional and Practical skills:

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



- c1. Identify medically important bacteria based on microscopic examination of stained preparations.
- c2. Perform a Gram stain and a Ziehl-Neelsen stain and identify, according to morphology and characteristics, stained preparations.
- c3. Identify culture media and biochemical tests commonly used for bacterial identification and distinguish positive and negative results.
- c4. Perform and evaluate different serological techniques for diagnosing infectious diseases.
- c5. Perform and evaluate new molecular biology techniques.
- c6. Write and evaluate professional microbiological and serological reports
- c7. Practice new methods of sterilization and disinfection.
- c8. Apply infection control measures in different medical wards.
- c9. Use new technology methods to serve professional microbiology practice.

(D) General and Transferable Skills:

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

- d1. Manage team work, seminars, and scientific meetings.
- d2. Critically appraise different scientific issues.
- d3. Evaluate different laboratory techniques.
- d4. Acquire different computer skills.
- d5. Manage time effectively.
- d6. Communicate ideas and arguments effectively.
- d7. Use information technology to serve in the development of microbiology, immunology and infection control practice.
- d8. Evaluate the performance self and others.
- d9. Use different resources to obtain knowledge and information
- d10. Acquire the skill of self and lifelong learning.

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: MD Program Credit points (CP) structure:
Total needed credit points for getting the MD degree is 180 CP.

The program consists of First part **30 CP**, Thesis **50 CP**, and Second part **100 CP**.

A. The first part of the program: 30 CP, its duration (15 weeks) for one academic semester. It includes:

- a. 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 **12 CP**.
- b. 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 **6 CP**.
- c. An advanced course in Research Methodology planned by the Community Medicine Department, Faculty of Medicine, Suez Canal University. This part includes **8 CP**.
- d. Two elective courses; the student should select two elective courses among six courses. This part includes **4 CP** (each course is 2 CP).

B. MD thesis: 50 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: 100 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. A specialized academic course in Microbiology and Medical Immunology planned and held in the Microbiology and Medical Immunology Department. It includes **60 CP**.
- b. A specialized practical course in Microbiology and Medical Immunology planned and held in the Microbiology and Medical Immunology Department. It includes **30 CP**.
- c. Scientific activities in the field of Microbiology and Medical Immunology. This part includes **10 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 MD program is 180 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		
MCMC51	Microbiology & Medical Immunology course	18	1	3 hours	195	45	120
BR	An advanced course in Research methodology and Biostatistics	8	1	3 hours	160	-	-
E	Two elective Courses*	4	1+1	1 h+ 1h	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 equals 20 marks

(5.2) Level/Year of Programme: Second part MD degree

a. Compulsory

Courses	Assessment
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Code No.	Course Title	No. of CP	Written Exam			Oral Exam	Practical Exam	Continues assessment *(Portfolio)
			No of papers	Duration	Marks			
MCMC52	Specialized Course in Microbiology and Medical Immunology	90	2	3 hours for each paper	360 + 360	180	360	540
	***Scientific activities	10	-	-	-	-	-	-
Total		100 credit points			**1800 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.

N.B. Thesis represents 50 credit points not included in the total mark for master degree.

6- Programme Admission Requirements:

- The program accepts candidates with Masters in Microbiology and Medical Immunology with a grade of GOOD at least.



- 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:

First part (30 CP = 600 mark)

- Written exam	435 marks
- Oral exam	45 marks
- Practical exam	120 marks
- Total	600 marks

Second part (100 CP including 10 CP not included in the total marks =1800 mark)

- Written exam	720 marks
- Oral exam	180 marks
- Practical exam	360 marks
- Portfolio	540 marks
- Total	1800 marks

Total of the MD degree **2400**

9- Regulations for Progression and Program Completion:

The regulations for program completion follow the regulations of MD 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 MD degree.



Thesis/Assay

- Passing thesis defence is prerequisite for getting MD 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 Elswify