ROGRAMME SPECIFICATION

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Program Title & Code	**Postgraduate Doctorate degree of Medical Parasitology (PAR 608 MPT)**
(2) Final award/degree	**MD**
(3) Department (s)	**Department of Medical Parasitology**
(4) Coordinator	Prof. Samar Nagah El-Beshbishi
(5) External evaluator (s)	**1. Prof.** Sherif Mohammed Abaza (Suez Canal University)
(6) Date of approval by the Department`s council	5-9-2016
(7) Date of last approval of Program specification by Faculty council	**9-8-2016**

(B) Professional information

(1) Program aims:

The broad aims of the program are as follows:

1. Educate the student the recent data in Medical Parasitology concerning parasite biology, life cycles, host–parasite relationship, environmental and host factors regulating parasitic diseases.
2. Allow the student to have adequate knowledge about endemic parasites and medical important mollusks, their morphological characteristics and national parasitic problems.
3. Help the student to recognize the up to date data on epidemiology and transmission patterns of parasites as required for an effective control programs.
4. Provide the student with updated data and researches concerned with parasitic diseases/manifestations, their underlying pathological, immunological and molecular causes, as well as laboratory diagnosis of those diseases.
5. Qualify the student to recognize the general outlines of parasite treatment and control and their impact on health, welfare and productivity of human being.
6. Enable the student to master different diagnostic techniques.
7. Qualify the student to review literature to present a lecture or seminar in a comprehensible scientific form, and to analyze, interpret and summarize the literature to write a review article.
8. Allow the student to have the experience in education fields, as well as collecting scientific data for preparing a proposal for thesis and research project, writing scientific papers, and performing survey studies.

9. Special emphasis will be made to allow the student gain experience in reviewing and critical appraisal of the international articles in the field of Medical Parasitology.
10. Prepare the student to participate in the nanotechnology era by being familiarized with this promising technology and able to use it in order to innovate in the Medical Parasitology field.

(2) Intended Learning Outcomes (ILOs):

A. Knowledge and Understanding

a1 Identify the medically important parasites and classify them according to the up-dated taxonomy.

a2 Recognize medical mollusks, classify them and realize their biology and medical importance.

a3 Recognize the geographical distribution of important parasites, re-emerging parasitic diseases and any outbreak of parasitic infection in previously non-endemic areas.

a4 Describe the life cycles of medically paramount parasites.

a5 Demonstrate ultra-structure, biochemistry and molecular biology of different parasitic stages.

a6 Explain host-parasite interaction and the major pathological and immunological responses underlying this process.

a7 Recognize clinical picture related to parasitic infection.

a8 Discuss the major groups of antiparasitic drugs, their method of application and what is new in this field.

a9 Discuss fundamentals of immunology, immunity to parasitic diseases and new immunological diagnostic tools.

a10 Explain recent advances in vaccine development against serious parasitic diseases

a11 List the updated principles of molecular diagnostic techniques and recognize their application in Parasitology.

a12 Identify the gross, microscopic pathologic and immunohistochemical changes of tissues in parasitic diseases.

a13 Elucidate expertise in presenting findings from appropriate peer-reviewed journals.

a14 Expound knowledge of the clinical research design principles, application and explication.

a15 Apply quality control and quality assurance procedures as demanded in research.

a16 Identify known nanomaterials and/or devices and their application in Medical Parasitology.

ILOs/ aims	Aim 1	Aim 2	Aim 3	Aim 4	Aim 5	Aim 6	Aim 7	Aim 8	Aim 9	Aim10
A1	√	√								
A2	√	√								
A3			√							
A4	√									
A5	√			√						
A6	√			√						
A7				√						
A8					√					
A9				√						
A10				√						
A11				√						
A12				√						
A13							√	√	√	√
A14								√		√
A15								√		
A16										√

B. Intellectual skills

The Postgraduate Degree provides opportunities for candidates to achieve and demonstrate the following intellectual qualities:

b1 Use problem solving skills and interpret the clinical and laboratory findings to reach the proper diagnosis.

b2 Predict different lines of epidemiology and prevention of parasitic infection.

b3 Suggest updated vaccine/s and immunotherapy for important public health parasitic problems.

b4 Design guidelines for a control program concerning a particular parasitic disease.

b5 Select proper molecular diagnostic tools for use and justify their advantages and indications.

b6 Choose appropriate immunohistochemical and immunological techniques for utilization and rationalize their advantages and indications.

b7 Elucidate expertise in reviewing the scientific literature on a research topic and presenting findings from appropriate peer-reviewed journals.

b8 Demonstrate expertise in practice and research, conducting thesis, writing literature reviews and scientific papers.

b9 Evaluate research articles, programs, etc…

b10 Select suitable nanotechnology diagnostic tools for use and justify their advantages and indications.

ILOs/ aims	Aim1	Aim2	Aim3	Aim4	Aim5	Aim6	Aim7	Aim 8	Aim 9	Aim 10
B1				√						√
B2			√		√					
B3					√					
B4			√		√					
B5				√						
B6				√						
B7							√			√
B8							√	√		√
B9									√	√
B10										√

C. Professional/practical skills

By the end of the course, candidates will acquire the following essential skills:

c1 Identify parasites & mollusks, their different stages and their body parts.

c2 Examine mounted slides and identify their contents.

c3 Apply the principles of diagnosis, treatment and control of parasitic diseases.

c4 Apply the proper measures of infection control in a hospital.

c5 Examine laboratory specimens (body fluids, excreta or infected tissues), and perform all parasitological laboratory diagnostic methods required in the course specifications.

c6 Deal with samples needed for molecular and genetic diagnosis and perform the demanded molecular techniques for parasitological diagnosis.

c7 Carry out the various proposed immunological tests for diagnosis of parasitological diseases.

c8 Deal with the samples needed for pathological diagnosis.

c9 Use proficiency approaches to enhance laboratory practice.

ILOs/ aims	Aim1	Aim2	Aim3	Aim4	Aim5	Aim6	Aim7	Aim 8	Aim 9	Aim10
C1		√								
C2		√								
C3				√	√					
C4			√		√					
C5						√				
C6						√				
C7						√				
C8						√				
C9						√				

D. Communication & Transferable skills

The Postgraduate Degree provides the opportunity to demonstrate the following transferable skills:

d1 Work in a multidisciplinary care team to solve community parasitic problems.

d2 Communicate and react positively with national campaigns and health authorities regarding exotic emergent parasitic diseases or outbreak of parasitic infections.

d3 Obtain informed consent from patients or their relatives about research goals and benefits as well as the involved procedures.

d4 Educate colleagues and other healthcare professionals and manage a team work properly.

ILOs/ aims	Aim1	Aim2	Aim3	Aim4	Aim5	Aim6	Aim7	Aim 8	Aim 9	Aim10
D1	√	√	√	√	√	√	√	√	√	√
D2			√	√	√					
D3				√				√		√
D4							√	√		√

(3) Academic standards:

Academic standards for the program are attached in Appendix I. in which External reference points/Benchmarks are used.

A table of comparison between ARS, NARS, Program ILOs is attached in Appendix II.

3.a. External reference points/benchmarks are selected to confirm the appropriateness of the objectives, ILOs and structure of assessment of the program:

Liverpool School of Tropical Medicine

http://www.lstmed.ac.uk/study/courses/biology-and-control-of-parasites-and-disease-vectors

3.b. Comparison of the specification to the selected external reference/ benchmark:

- All program aims of the Benchmarks are covered by the current program.
- The program courses are matched by 50% degree to those offered by Liverpool School of Tropical Medicine except in the context of credit hours, and the type of degree offered.

3.c. External evaluator/s.

(4) Curriculum structure and contents:

4.a. Duration of the Program (in years or months) 6 semesters.

4.b. Program structure:

*The program consists of two parts;

-The first part composed of three courses which are: **Molecular Parasitology, Immunology of Parasitic Diseases and Histopathology of Parasitic Diseases**.

-The second part composed of:

- Compulsory course: **Medical Parasitology**.

- Elective course: the candidate choose one of three courses:

a. Advanced immunology.

b. Advanced molecular biology.

c. Nanotechnology.

*Candidates should fulfill a total of 60 credit hours.

●4.b.1: Number of credit hours:

First part: 5 credit hours

Second part: 25 credit hours

Thesis:15 credit hours.

Activities including practical and the log book: 15 credit hours

●4.b.2: Teaching hours/week:

First part: 5 credit hours

Course	Credit hours
1. **Molecular Parasitology**	2 credit hours
2. Immunology of Parasitic Diseases	2 credit hours
3. **Histopathology of Parasites**	1 credit hour

Second part: 25 credit hours

	1st semester	2nd semester	3rd semester
1-**Medical Parasitology:** a-Helminthology	3 credit hours	3 credit hours	3 credit hours
b-Protozoa	2 credit hours	2 credit hours	2 credit hours
c-Entomology		2 credit hours	2 credit hours
d-Malacology	2 credit hours		
e- Nosocomial &zoonotic infections			2 credit hours
2- elective course:			
a-Advanced Immunology		2 credit hours	2 credit hours
b-Advanced Molecular Parasitology		2 credit hours	2 credit hours
c-Nanotechnology		2 credit hours	2 credit hours

(5) Program courses:

First part

a- Compulsory courses:

Course Title	Course Code	NO. of credit hours per week	Total teaching hours/15 weeks	Program ILOs covered (REFERRING TO MATRIX)
		Theoretical Lectures		
Molecular Parasitology	**PAR 608 MP**	**2**	**30**	A5,10,11,13,14 B1,3,5,7-9 D1,4
Immunology of Parasitic Diseases	**PAR 608 IPD**	**2**	**30**	A6,8-10,13,14 B1,3,6-9 D1,4
Histopathology of Parasites	**PAR 608 HP**	**1**	**15**	A6,12-14 B6-9 D1,4
			75	

Second part

1-Compulsory courses : Medical Parasitology

2-Elective course: one of three courses (Advanced immunology, Advanced molecular biology, or Nanotechnology)

Course Title	Course credit hours	Total teaching hours	Program ILOs covered (REFERRING TO MATRIX)
1- Medical Parasitology: PAR 608 MPT	**21**	**Lectures: 21x15= 315**	**A1-8,13,14 B1,2,4,7-9 C1-9 D1,2,4**
2- Elective course			
a)Advanced Immunology PAR 608 AI	**4**	**Lectures: 4x15=60**	**A6,8-10,13,14 B1,3,6-9 D1,3,4**
b)Advanced Molecular Biology PAR 608 AMB	**4**	**Lectures: 4x15=60**	**A5,10,11, 13, 14 B1,3,5,7-9 D1,3,4**
c)Nanotechnology	**4**	**Lectures: 4x15=60**	**A13,14,16 B1,7-10 D1,3,4**
Total	**25 credit**		
Thesis	15 credit		**A13-15 B1-9 C1-9 D1-4**
Log Book & Practical & Other Activities	**PAR 608 MPP**	15 credit **Total Practical: 30x15= 450**	**B1,5,6,8 C1-9 D1-4**
	55		

Assessment tool:

First part: Compulsory courses

Course name	Tools	Marks
Molecular Parasitology	Written exam MCQ	80 20
Immunology of Parasitic Diseases	Written exam MCQ	80 20
Histopathology of Parasites	Written exam MCQ	80 20

Second part

Course name	Written	MCQ	Oral	OSPE
Medical Parasitology (Compulsory course)	160	40	75	75
Advanced Immunology (Elective course)	40	10		
Advanced Molecular Biology (Elective course)	40	10		
Nanotechnology (Elective course)	40	10		

Program –Course ILOs Matrix

A- Knowledge and Understanding:

Course Title/Code	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16
Molecular Parasitology/PAR 608 MP					√					√	√		√	√		
Immunology of Parasitic Diseases/ PAR 608 IPD						√		√	√	√			√	√		
Histopathology of Parasites/ PAR 608 HP						√						√	√	√		
Medical Parasitology/ PAR 608 MPT	√	√	√	√	√	√	√	√					√	√		
Advanced Immunology/ PAR 608 AI						√		√	√	√			√	√		
Advanced Molecular Biology/ PAR 608 AMB					√					√	√		√	√		
Nanotechnology																√
Thesis													√	√	√	

B- Intellectual Skills. C- Professiona/ Practical skills. D- Communication and transferable skills.

Course Title/Code	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	C1	C2	C3	C4	C5	C6	C7	C8	C9	D1	D2	D3	D4
Molecular Parasitology/ PAR 608 MP	√		√		√		√	√	√											√			√
Immunology of Parasitic Diseases/ PAR 608 IPD	√		√			√	√	√	√											√			√
Histopathology of Parasites/ PAR 608 HP						√	√	√	√											√			√
Medical Parasitology/ PAR 608 MPT	√	√		√			√	√	√		√	√	√	√	√	√	√	√	√	√	√		√
Advanced Immunology/ PAR 608 AI	√		√			√	√	√	√											√			√
Advanced Molecular	√		√		√		√	√	√											√			√

Biology/ PAR 608 AMB																							
Nanotechnology	√						√	√	√	√										√		√	√
Thesis	√	√	√	√	√	√	√	√	√		√	√	√	√	√	√	√	√	√	√	√	√	√
Practical Parasitology	√				√	√		√			√	√	√	√	√	√	√	√	√	√	√	√	√

(6) Program admission requirements:

General requirements:

According to the faculty postgraduate by laws Appendix IV.

Specific requirements (if applicable):

No specific requirements

(7) Regulations for progression and Program completion:

- Student must complete minimum of 60 credit hours in order to obtain the M.D. degree, which include the courses of first and second parts, thesis and activities of the log book.
- Registration for the M.D. thesis is allowed 18 months from the day of registration to the program and must fulfill a total of 15 credit hours including material collection, laboratory work, patients follow-up, and meetings with supervisors.

Log book fulfillment:

- Student must fulfill a minimum of 15 credit of log book activities including, laboratory work in Parasitology, slide preparations and conferences attendance or speaking.
- Lectures and seminars of the previously described courses must be documented in the log book and signed by the lecturer.
- Works related to thesis must be documented in the log book and signed by the supervisors.
- Any workshops, conferences and scientific meetings should be included in the log book.

(8) Evaluation of Program's intended learning outcomes (ILOs):

Evaluator	Tools*	Sample size
Internal evaluator **(s)** 1. Prof. Aya ElSayed Handoussa 2. Prof. Hala Ahmed ElNahas 3. Prof. Samar Nagah El-Beshbishi	**Focus group discussion Meetings**	
External Evaluator (s) 1. Prof. Sherif Mohammed Abaza (Suez Canal University)	Reviewing according to external evaluator checklist report.	
Senior student (s) Dr. Wafaa Moustafa Amar	COMMUNICATION	
Alumni	None	
Stakeholder (s)	None	
others	None	

* TOOLS= QUESTIONNAIRE, INTERVIEW, WORKSHOP, COMMUNICATION, E_MAIL

We certify that all information required to deliver this program is contained in the above specification and will be implemented. All course specification for this program are in place.	
Program coordinator: Name: **Prof. Samar Nagah El-Beshbishi**	Signature & date:
Head of the department: Name: **Prof. Hala Ahmed El Nahas**	Signature & date:
Dean: Name: **Prof. El-Said M. Abdel-Hady**	Signature & date:
Executive director of the quality assurance unit: Name: **Prof. Seham Gad EL-Hak**	Signature & date: