



Faculty of Medicine
Suez Canal University

Pharmacology Department
Program Specification- M.D.

PROGRAM SPECIFICATIONS

Program Title:

M.D. of Pharmacology

Code:

PCPC



Program Specification

A- Basic Information

1- Program Title: **MD of Pharmacology**

2- Program Type: **Single** **Double** **Multiple**

3- Department (s): **Clinical Pharmacology Department**

4- Coordinator: **Dr. Mona Kamal Tawfik**

5- External Evaluator(s):

6- **Last date of program specifications approval:** the bylaws of the MD program in Pharmacology in the Faculty of Medicine, Suez Canal University were approved by the Supreme Council of Universities on 2016.

7- **Date of program specification revision approval:** February 2018.

8- **Number of credit points for this degree:** 180 CP

B- Professional Information

1- Program Aim

- Discuss the concept of general pharmacology including the concepts of pharmacodynamics and pharmacokinetics in rationale drug prescribing
- Analyze the concept of drug interaction in rational drug prescribing
- Comment on different management plans in various diseases
- Explain the pharmacological effects of drugs affecting the different organs
- Discuss the role of gene therapy in different diseases.
- Criticize published scientific research and scientific literature
- Practice experiments on isolated organs and on whole animals

2. Intended Learning Outcomes (ILOs) of the program

a- Knowledge and Understanding:

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

- a1. Recognize the concept of molecular pharmacology including main concepts of drug mechanism of action at the molecular level.
- a2. Recognize the concept of pharmacogenomics including the principles of human genetics and genomics.
- a3. Recognize the concept of general pharmacology including the concepts of pharmacodynamics and pharmacokinetics in rationale drug prescription



- a4. Recognize basis, methods and ethics of scientific researches and its different tools
- a5. Demonstrate advanced knowledge of biostatistics
- a6. Identify basic and medicolegal aspects and ethics of professional practice and scientific research and its reflection on environment.
- a7. Identify basis and principles of quality assurance in professional practice.

b- Intellectual Skills

By the end of this program, participants should be able to:

- b1. Apply problem solving skills in different professional situations.
- b2. Practice continuous self learning and self evaluation skills.
- b3. Interpret and analyze data.
- b4. Practice critical thinking and problem solving to improve practice
- b5. Formulate a research hypothesis based on evidence and apply the appropriate methods to assess the validity of this hypothesis.
- b6. Criticize the scientific literature in Pharmacology.
- b7. Design a research article that can be submitted to a regional or international scientific journal.
- b8. Assess risk in dealing with human specimens and experimental animals
- b9. Be innovative and creative
- b10. Discuss on basis of evidence

c- Professional and Practical Skills

By the end of this program, participants should be able to:

- c.1 Criticize rational drug prescribing in certain disease.
- c.2 Comment on the liver and renal conditions in prescribing drugs.
- c.3 Practice combined drugs without unwanted drug interactions and side effects
- c.4 Evaluate the effects of new agents on experimental animals
- c.5 Use technology to serve pharmacology practice
- c.6 Plan to develop professional practice and improve performance of others

d- General and Transferable Skills

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

- d.1 Practice presentation skills
- d.2 Evaluate subordinates, peers & program
- d.3 Argue different ideas effectively
- d.4 Manage time and resources and set priorities;
- d.5 Practice effective teaching and mentor to others
- d.6 Practice working effectively within a team.
- d.7 Practice efficient Information and Communication Technology (ICT) skills
- d.8 Practice continuous self learning skills.



3- Academic Standards

3a - External References for Standards (Benchmarks)

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

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

- Some unique courses were suggested and introduced during assessment of the current situation and the needs assessment achieved during preparation for the program.

4- Curriculum Structure and Contents

4a- 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.

4b- Program structure:

MD Program Credit points (CP) structure:

Total needed credit points for getting MD degree 180 CP

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

1. **The first part of the program:** 30 CP, its duration (15 weeks) for one academic semester. The first part comprises the following:
 - a. A course in Research Methodology planned and held in the Community Medicine Department of the Faculty of Medicine, Suez Canal University. This part includes 8 CP.
 - b. Two electives each one has 2 CP. The students should select one elective which has not been selected in the Master Degree.
 - c. The specialized courses in Pharmacogenomics , planned and held in the Pharmacology Department. It includes 9 CP.
 - d. The specialized courses in Molecular pharmacology, planned and held in the Pharmacology Department. It includes 9 CP.
- 2- **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 defense after 2 years from the date of the faculty council approval on the thesis protocol.
- 3- **The second part of the program:** 100 CP, its duration (75 weeks) for 5 consecutive academic semesters. The second part comprises the specialized courses in Pharmacology, planned and held in the Pharmacology Department. This part lasts for 2 years ending by written and practical exams.

3bi-No. of credit Points: the MD program is 180 credit Point system.



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

Courses			Assessment				
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam
			No of Papers	Duration	Marks		
BR	Research methodology and biostatistics	8	1	3 hours	160		
PCPC51	Course in pharmacogenomics	9	1	3 hours	120	20	40
PCPC52	Course in molecular Pharmacology	9	1	3 hours	120	20	40
E	Two Elective courses*	2+2	1+1	1 hour+1 hour	40+40		
Total		30 credit points			600 marks**		

5.1- Level/Year of Program: First part of MD (30 CP)

***Student should select one course of the following as an elective course:**

Two elective courses each one has 2 CP. The students should select two elective which has not been selected before in the Master Degree.

- | | | |
|------------|-------------------------------------|---------------------------------------|
| 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) |

****every credit point equal 20 marks**



5.2- Level/Year of Program: Second part of MD program (100 CP)

Courses			Assessment					
Code No.	Course Title	No. of Credit points	Written Exam			Oral exam	Practical or clinical Exam	Continues assessment *(Portfolio)
			No of papers	Durati on	Marks			
PCPC 53	Advanced Course in applied pharmacology and therapeutics	60	2	3 hours For each paper	360 for each paper	180	360	540
	Practical training in Advances of Practical Pharmacology	30						
	***Scientific activities	10 (not included in the total marks)						
Total		100 credit points			1800**marks			

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



Program Admission Requirements

- The program accepts candidates with Masters in Pharmacology with a grade of GOOD at least.
- Registration for the program opens 2 times/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) to assess the cognitive domain.
- 7.2 MCQs to assess the cognitive domain
- 7.3 Oral Viva Cards to assess higher cognitive and attitude domains.
- 7.4 Observations to assess practical and presentation skills.
- 7.5 Portfolio to assess the cognitive, psychomotor and the affective domains.

8- Weighting of Assessments

Type of exam	
First part (30 credit points= 600 mark)	
• Written exam	480
• Oral and practical exam	120
• <u>Total</u>	600
Second part (100 credit points including 10 credit points not included in the total marks =1800 mark)	
• Oral exam	180
• Practical exam	360
• Written exam	720
• Portfolio	540
<u>Total</u>	1800

9- Regulations for Progression and Program Completion

- The regulations for program completion follow the general regulations for the Faculty of Medicine, Suez Canal University for MD approved by the Supreme Council of Universities. The program is considered complete with the accomplishment of 2 summative assessment (for the first and the second parts) and the defense of a thesis developed and submitted for the purpose of acquiring the degree.
- **First part**
- Passing level 60% of total marks of the exam and at least 50% passing level of the total written exam marks



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- **Second part**
- Passing level 60% of total marks of the exam
- Passing level 60% total of practical and oral exam
- **Thesis/Assay**
- Passing discussion is required for 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(N/A since this is the first time to implement the program)	N/A	N/A
3- Stakeholders	Self-administered questionnaires DELPHI Focus groups	According to the method
4-External Evaluator(s) (External Examiner(s))	External audit of the program specifications	
5- Other		

Head of Pharmacology Department
Assistant Prof. Mona Kamal Tawfik

Date: