PROGRAMME SPECIFICATION

Faculty of Medicine– Mansoura University

(A) Administrative information

(1) Programme Title & Code	Ph.D.degree of clinical pharmacology CHARM600
(2) Department (s)	Clinical pharmacology department
(3) Coordinator	– Prof. Dr. Hussien M. El–Beltagi. – Prof. Dr. Mohamed–Hesham Daba – Dr.Amira Eladl Clinical pharmacology department
(4) External evaluator (s)	– **Prof. Dr. Magda Hagras, professor of clinical pharmacology, Suez Canal University**
(6) Date of approval by the Department`s council	10/7/2016
(7) Date of last approval of programme specification by Faculty council	9–8–2016

(B) Professional information

(1) Programme Aims:

The broad aims of the Programme are as follows:

1. Understand and apply principles of pharmacokinetics/pharmacodynamics to optimise drug administration and predict adverse drug and drug-drug interactions.
2. Aquire detailed knowledge of pharmacokinetics, mechanisms of action, therapeutic uses, adverse effects and drug-drug Interactions of common therapeutic drugs.
3. Rational and cost-effective use of drugs, aiming for clinical effectiveness at all times.
4. Understand and apply principles of research ethics.
5. Acquire skills related to pharmacological screening and standarization of drugs .
6. Aquire the skill to design and conduct clinical trials effectively.
7. Aquire ability to critically evaluate scientific literature related to pharmacology and therapeutics.
8. Acquire knowledge related to basics, safety & efficacy of gene therapy.
9. Study pharmacovigilance of commonly prescribed drugs.

(2) Intended Learning Outcomes (ILOs):

On successful completion of the programme, the candidate will be able to:

A- Knowledge and Understanding

1. Review pharmacokinetics/dynamics of drugs at molecular and sub-cellular levels.
2. Describe theories of drug-receptor interactions and the related concepts of agonists and antagonists.
3. Define main pharmacokinetic concepts; bioavailability, half life, area under the curve, volume of distribution and clearance.
4. Study changes in drug dyanmics, kinetics in vulnrable patients (geriatrics, pediatrics and Pregnancy).
5. List common and/or severe adverse reactions of main drugs.
6. Discuss important mechanisms of drug adverse reactions.
7. Recall narrow therapeutic index drugs, requiring therapeutic drug monitoring.
8. Discuss acute and chronic toxicity studies in animals.
9. Acquire knowledge related to bioassay of agonist and antagonist activity of drugs.
10. Describe advances in therapeutic management of common medical disorders and infections.
11. List general strategies for management of poisoned patients
12. Outline basics of evidence based therapy, lifestyle drugs and sport medicine.
13. Discuss different methods, strategies and clinical applications of gene therapy.

B- Intellectual skills

1. Interpret pharmacokinetic date of a drug; bioavailability, Half life, Volume of distribution and Clearance.
2. Construct dose regimens correctly, using pharmacokinetic principles.
3. Analyze adverse drug reactions, based on their molecular and pharmacological basis.
4. Anticipate drug induced liver, kidney and skin diseases
5. Anticipate and avoid drug-drug interactions, including interaction with complementary medicines.
6. Analyze guidelines for management of common medical disorders.
7. Explain causes of failure of medical therapy, including mechanisms of bacterial and cancer resistance.
8. Interpret results of clinical trials, related to drug safety and adverse effects.
9. Apply gene sequencing, rt-PCR and gene silencing techniques in testing pharmacological effects of drugs.
10. Design clinical trials effectively.
11. Critically analyze medical literature relevant to basic and clinical pharmacology.

C- Professional/practical skills

1. Select drugs and dose regimens based on principles of individualized therapy
2. Apply latest guidelines in mangement of common medical disorders and infections.
3. Prescribe appropriatly in different pathological and physiological conditions.
4. Detect, manage and report adverse drug reactions.
5. Practice screening of drug activity on isolated tissues and living animals.
6. Develop animal models of disease to be used as tools in testing therapeutic effects of new drugs.
7. Construct clinical trials to test pharmacokinetics and toxicity of new drugs.
8. Practice therapeutic drug monitoring efficiently to avoid drug toxicity.
9. Improve drug safety, using Information Technology prescribing tools.
10. Respond appropriately with updated therapeutic alerts.
11. Manage case scenarios of various diseases.
12. Evaluate guidelines on medicines utilization and develop prescribing policies, aiming for clinical effectiveness at all times.

D- Communication & Transferable skills

1. Work effectively within a team.
2. Re-prioritize regularly personal and team work load.
3. Show willingness to act as a leader, mentor, educator and role model.
4. Access information effectively in library and midline data base.
5. Respond appropriately to unprofessional behavior of others.
6. Work in partnership with patients and members of the wider healthcare team.
7. Respond to questions honestly and seek advice if unable to answer.
8. Maintain honesty and objectivity during appraisal and assessment.
9. Ensure appropriate personal language and behavior.
10. Demonstrate effective lecture, presentation, and small group teaching sessions.

(3) Academic standards:

Academic standards for the programme are attached in Appendix I. in which **NARS** issued by the National Authority for Quality Assurance & Accreditation in Education are used. External reference points/Benchmarks are 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 programme:

1. Joint royal colleges of the physician training board (70 %) (WWW.jrcptb.org.uk or www.gmc-uk.org/CPT_3_Jul _07_Curr_0010.pdf_30543337.pdf).

2. UMDNJ, New Jersey Medical School, Pharmacology & Physiology Department (30%) (http://njms.umdnj.edu/departments/pharmacology/graduate_courses.cfm)

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

The main difference is that this course specification does not include teaching through ward-based rounds.

(4) Curriculum structure and contents:

4.a- Duration of the programme: 6 semesters, 60 credit hours.

4.b- programme structure:

Candidates should fulfill a total of 60 credit hours

●4.b.1: Number of credit hours:

First part: 5 Second part: 40 Thesis: 15

●4.b.2: Teaching hours/week:

First part: Lectures: 5 Clinical/lab: - Total: 5

Second part: Lectures: 25 Clinical/lab: 15 Total: 40

(5) Programme courses:

First part

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week					Total teaching hours	Programme ILOs covered (REFERRING TO MATRIX)
		Theoretical		Laboratory /practical	Field	Total		
		Lectures	seminars					
General pharmacology (24 weeks)	CPHARM 606	**4**				**4**	**60**	
Bioassay (24 weeks)	CPHARM 606 BA	**1**				**1**	**15**	

Second part

a- Compulsory courses:

Course Title	Course Code	NO. of hours per week					Total teaching hours	Programme ILOs covered (REFERRING TO MATRIX)
		Theoretical		Laboratory /practical	Field	Total		
		Lectures	seminars					
Basic pharmacology (28 weeks)	CPHARM 606 BP CPHARM 606 BPP	**9**	**3**	**8**		**20**	**420**	
Clinical pharmacology (84 weeks)	CPHARM 606 CP CPHARM 606 CPP	**9**	**3**	**7**		**19**	**390**	
MD thesis							**15 credit hours**	

b- Elective courses:

Course Title	Course Code	NO. of hours per week					Total teaching hours	Programme ILOs covered (REFERRING TO MATRIX)
		Theoretical		Laboratory /practical	Field	Total		
		Lectures	seminars					
Pharmaceutics Gene therapy	CHARM 606 PG	1				1	15	
pharmacovigilance	CHARM 606 PV	1				1	15	

Programme–Courses ILOs Matrix

Course Title/Code		Programme ILOs																									
	a1	a2	a3	a4	a5	a6	a7	a8	B1	B2	B3	B4	B5	B6	C1	C2	C3	C4	C5	C6	C7	D1	D2	D3	D4	D5	D6	D7
General pharmacology		X	X		X					X	X			X		X	X				X				X	X		
Bioassay	X	X		X			X		X	X			X	X					X	X		X	X	X				
Basic pharmacology	X	X	X		X	X				X	X	X		X	X	X		X			X			X	X	X		
Clinical pharmacology	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pharmaceutics Gene therapy	X	X	X		X					X				X								X		X	X			
Pharmacovigilance					X	X					X	X		X								X		X	X			

6) Programme admission requirements:

- General requirements:

  - Previous degree: MSc clinical pharmacology (minimum good grade)

  - Experience : training as an assistant lecturer in clinical pharmacology.

(6) Regulations for progression and programme completion:

First part

Assessment rules

1- Attendance criteria: Minimum acceptance attendance in each course is 70%

2- Log book should be fulfilled and signed by head of the department.

3- Assessment tool

Tools	Mark	Percentage of the total mark
Written exam for general pharmacology course	100	50%
Written exam for bioassay course	100	50%
Total Marks	200	100%

Second part

Assessment rules

1- Attendance criteria: Minimum acceptance attendance in each course is 70%

2- Log book should be fulfilled and signed by head of the department.

3- Assessment tool.

Tools	Mark	Percentage of the total mark
Compulsory course		
Written exam	250	50%
Oral exam	100	25%
Practical exam	100	25%
Total Marks	450	100%
Elective course		
Written exam	50	100%

To qualify for the award of the MD. with distinction, candidates must pass at least 60% of the final exam in each of the items of the second part exam.

(7) Evaluation of Programme's intended learning outcomes (ILOs):

Evaluator	Tools*	Sample size
Internal evaluator (s) - Prof. Dr. Gamal Mohamed Maamon Dahab - Prof. Dr. Abd El – Rahman Yassin. - Prof. Dr.Mohammed Abdelghani	Interview Communication	
External evaluator (s) - Prof. Dr. Magda Hagras, professor of clinical pharmacology, Suez Canal University	Interview Communication	
Senior student (s)		
Alumni		
Stakeholder (s)		
others		

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

We certify that all information required to deliver this programme is contained in the above specification and will be implemented. All course specification for this programme are in place.	
Programme coordinators: **– Prof. Dr. Hussien M. El-Beltagi** **– Prof. Dr. Mohamed-Hesham Daba** **– Dr.Amira Eladl**	Signature & date:
Dean Name	Signature & date:
Executive director of the quality assurance unit.	Signature & date: