COURSE SPECIFICATION

(Clinical Pharmacology-HEM 506)

Faculty of Medicine- Mansoura University

(A) Administrative information

(1) Programme offering the course:	Postgraduate Master degree of clinical hematology/HEMA 500
(2) Department offering the programme:	Internal Medicine Department
(3) Department responsible for teaching the course:	Pharmacology department
(4) Part of the programme:	first part
(5) Date of approval by the Department`s council	26/04/2016
(6) Date of last approval of programme specification by Faculty council	9\8\2016
(7) Course title:	Clinical Pharmacology
(8) Course code:	HEM 506
(9) Total teaching hours:	7.5 hours
(10) Credit hours	0.5 hour

(B) Professional information

(1) **Course Aims:** The broad aims of the course are as follows:

1- To educate the candidate the basics of chemotherapy including different categories of drugs, drug-drug interactions, cytotoxic thermotherapy classes and side effects.
2- To identify drug groups targeted toward each specific type of blood disorders.
3- To know the basics of pharmacokinetics and pharmacodynamics of drugs.

(2) Intended Learning Outcomes (ILOs):

Intended learning outcomes (ILOs); Are four main categories: knowledge & understanding to be gained, intellectual qualities, professional/practical and transferable skills.

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

A- Knowledge and Understanding

A8: To identify effects of systemic disorders and drugs on the blood, blood forming organs, and lymphatic tissues.
A9: To recognize chemotherapeutic drugs, biologic products, and growth factors and their mechanisms of action; pharmacokinetics, clinical indications, and their limitations, including their effects, toxicity, and interactions.
A10: : To identify multiagent chemotherapeutic protocols and combined modality therapy of blood diseases.
A11: To state treatment of patients with disorders of hemostasis and the biochemistry and pharmacology of coagulation factor replacement therapy.
A12: To comprehend basics of pain management in patients with blood disorders.
- A13 : To understand principles of analgesics and pain killers and their proper u different hematological cancers and palliative care.

B- Intellectual activities

To construct meaningful, supervised research experience with appropriate protected time either in blocks or concurrent with clinical rotations while maintaining the essential clinical experience.
The Postgraduate Degree provides opportunities for candidates to achieve and demonstrate the following intellectual qualities:

- To correlate clinical information about the disease with different drugs to be used as therapy.
- To interpret the proper drug for each hematological disease.
- To deal with drugs interactions and modifications.
- To avoid drug resistances that emerge with the use of antibiotics.

D- Communication & Transferable skills

D6: To incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate

D10d: To act in a consultative role to other physicians and health professionals; and,

(3) Course content:

Subjects	Lectures	Clinical	Laboratory	Field	Total Teaching Hours
(1) Chemotherapy • Classification • Mechanism of action • Drug combination • Resistance to antimicrobial drugs • Super infection • General principles of therapy with antimicrobials • Causes of failure of antimicrobial therapy • Sulfonamide,Co-trimoxazole • Quinolones • Penicillin's • Cephalosporin's and Cephamycins • Carbopenem and Monobactams • Aminoglycosides • Macrolide Antibiotics • Lincosamide • Tetracycline • Chloramphenicol • Bactracin • Vancomycine,Polymixins • Antifungal drugs • Antiviral drugs • Cytotoxic drugs and cancer chemotherapy • Drug that suppress immune	1h 1h 1h 1h 2h				

response • Drugs that enhance immune response					
(2) Blood • Drugs used in anemia • Iron • Vitamin B12 • Folic acid • Hematopoietic growth factors • Coagulants and haemostatic's • Vitamin K • Drugs that prevent coagulation • Heparin • Oral anticoagulants • Platelets and Antiplatelets • Drugs that promote fibrinolysis • Drugs that prevent fibrinolysis	1h 1h 1h				
(3)General pharmacology A-Pharmacodynamics: Pharmacological effect of drugs 1-Dose- response relationship curve 2-Factors modifying dose-response relationship • Age,Sex,Weight,Pathological states, Time and routs of administration • Pharmocogenetics factors • Hyporeactivity to drugs • Hyperactivity to drugs	1h				

• Cummulation • Drug dependence • Drug combination • Drug interaction B-Pharmacokinetics: • Absorption of drugs • Distribution of drugs • Execretion and elimination of drugs • A-Kinetics of elimination • B-Elimination half life • C-Clearance as a channel of elimination and execretion • Metabolism of drugs • A-Principles • B-Biochemical reactions involved in drug metabolism • C- Factors affecting drug metabolism • Bioavailability • Prolongation of the duration of drug effect C-Principles of drug interaction	2h 1h				
(4)GIT • Drug therapy of vomiting A-H1 receptor antagonists B-Cholinergic antagonists C-Dopamine antagonists D-5HT3 antagonists E-Miscellaneous agents	1h				
(5)CNS • Analgesics					

1-Opiates analgesics 2-Non-opiates analgesics • A-Acetaminophen • B-Glafenin • C-Nefopam • D-Diptron(Novalgin)	1h				
	15 h				Lect.:15 h

(4) Teaching methods:

4.1 Power point presentation

(5) Assessment methods:

5.1 Written exam for assessment of knowledge and intellectual ILOs

5.2: Oral exam for assessment of knowledge and intellectual ILOs

5.3: MCQ for assessment of of knowledge and intellectual ILOs

Assessment schedule:

Assessment 1: Final written and oral exam after 6 months of registration to the degree

Assessment2:MCQ at the end of the semester

Percentage of each Assessment to the total mark:

MCQ exam : 18 marks

Written exam: 72 marks

Oral exam: 60 marks

(6) References of the course:

6.1: Hand books: Modern Pharmacology, Clinical pharmacology department, faculty of medicine, Mansoura University

6.2: Text books: Pharmacology and therapeutics (Goodman).

-Basic and clinical pharmacology (Katzung).

- Pharmacology (Rang and Dale

(7) Facilities and resources mandatory for course completion:

-Lectures Halls.

-Data show.

Course coordinator: Prof. Sameh Shamaa

Prof. Mohamed Nasr Mabed

Prof. Emad Azmy

Head of hematology unit: Prof. Mohamed Nasr Mabed

Head of the department: Prof. Salah El-Gamal

Date of 1st approval: 22/12/2010

Date of last approval: 30/3/2016