Course Specifications

University	Beni-Suef
Faculty	Pharmacy
Dept.	Clinical pharmacy department

1-Course Info.	**Course Name:** Clinical Pharmacokinetics
Code No. pp 907	**Academic year /Level:** Fifth year, first semester
Credit hours: Lecture (2) hour + Practical (1) hour	

2-Overall Aim of the Course	By the end of the course, students should be able to acquire sufficient knowledge of major concepts of clinical pharmacokinetics of specific drugs and its application in the different healthcare settings
3-Intended Learning Outcomes of the course (ILOs)	
a. Knowledge and understanding	After completing the course , students should be able to a1- define the concepts of clinical pharmacokinetics, pharmacodynamics, and clearance, volume of distribution, half-life, bioavailability a2- summarize different pharmacokinetic parameters of certain drugs a3- classify drugs according to their metabolic fates and clearance. a4-discuss some drug metabolism enzymes and drug transport proteins and their importance in drug bioavailability and elimination. a5- List patient characteristics needed to decide upon the best drug dose for an individual a6-Illustrate the concepts of drug dosing to renal impaired & liver problems. a7- describe the principles and basics of therapeutic drug monitoring (TDM) in professional practice in clinical pharmacy.

b. Professional and Practical Skills	After completing the course , students should be able to b1- compute a maintenance dose, loading dose, and dosage interval for a patient given values of clearance, volume of distribution, and half-life. b2- calculate the estimated creatinine clearance for a patient b3- determine when drug doses should be modified for patients with renal or hepatic dysfunction. b4- modify a drug dosage regimen for an agent that follows linear pharmacokinetics given a steady-state drug concentration and current drug dose. b5- calculate the post dialysis replacement dose for drugs removed during hemodialysis
c. Intellectual Skills	After completing the course , students should be able to c1-differentiate between linear pharmacokinetics and nonlinear pharmacokinetics c2-combine various information to solve professional problems. c3- decide when a patient would benefit from the determination of pharmacokinetic constants for the use of dosage adjustment using drug-specific techniques or bayesian computer dosing programs. c4-evaluate risks relevant to his/her professional practice in pharmacokinetics. .
d. General and Transferable Skills	After completing the course , students should be able to d1- master basic and recent professional skills in pharmacokinetics. d2-solve pharmacokinetic problems, relating to qualitative and quantitative information, extending to situations where evaluations have to be made on the basis of limited information.

4-Course Contents

Topic	No. of hours	Lecture	Practical
1-Introduction to clinical pharmacokinetics, bioavailability, clearance, nonlinear kinetics	3	2	1
2-pharmacokinetics of Aminoglycosides.	3	2	1
3-pharmacokinetics of Digoxin.	3	2	1
4-pharmacokinetics of Lidocaine.	3	2	1
5- pharmacokinetics of carbamazepine and ethosuximide	3	2	1
6-pharmacokinetics of Methotrexate.	3	2	1
7-pharmacokinetics of theophylline.	3	2	1
8-pharmacokinetics of phenytoin.	3	2	1
9-pharmacokinetics of Lithium.	3	2	1
10-pharmacokinetics of phenobarbital.	3	2	1
11-pharmacokinetics of Valproic acid.	3	2	1
12-pharmacokinetics of	3	2	1

	cyclosporine.			
	Total	**36**	**24**	**12**

5- Teaching and learning Strategies	1. Lectures 2. Case studies 3. Tutorials 4.Journal club
6- Teaching and learning Methods for Special Needs Students.	
7- Student Assessment Methods	
a-Methods	1. Sheet examination. 2. Practical exam 3. Final written and oral examinations.
b- Assessment Schedule	Assessment 1: Sheet Exam. Week: 5-6 Assessment 2: Practical Exam. Week: 13 Assessment 3: Final Written Exam. Week: 14 -16 Assessment 4: Final Oral Exam. Week: 14 – 16
c- Weighting of Assessment Marks	

Type of Assessments	**Marks**	**Weight (%)**
Written examination	50	50%
Oral examination	15	15%
Practical/laboratory work	25	25%
Other Assignments/class work	10	10%
Total	**100**	**100%**

8-List of References	
a.Notes	Course Notes: prepared by staff members of the teaching department.

b.Mandatory Books	Clinical pharmacokinetics
c.Suggested Books	Applied pharmacokinetics
d.Journals	Clinical pharmacokinetics journal

Course Coordinators: Dr. Hoda Mohamed Rabea

Head of department: Dr. Ahmed abdalla alberry

Date: ……