



## Course Syllabus

1	Course title	Clinical Pharmacokinetics	
2	Course number	1203577	
3	Credit hours	2 (theory)	
	Contact hours (theory, practical)	2 (theory)	
4	Prerequisites/corequisites	1203475	
5	Program title	PharmD	
6	Program code		
7	Awarding institution		
8	School	Pharmacy	
9	Department	All departments	
10	Course level	Fifth year PharmD (undergraduate)	
11	Year of study and semester (s)	2023/2024, First semester	
12	Other department (s) involved in teaching the course		
13	Main teaching language		
14	Delivery method	<input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15	Online platforms(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom	
16	Issuing/Revision Date	<input type="checkbox"/> Others.....	

### 17 Course Coordinator:

Name: Mohammad I Saleh

Contact hours: 2

Office number:

Phone number: 35547

Email: moh.saleh@ju.edu.jo



## 18 Other instructors:

## 19 Course Description:

This course aims to involve the clinically-oriented PharmD student in the process of clinical pharmacokinetic and pharmacodynamic monitoring of drug therapy. It is mainly concerned with the application of concepts and techniques of pharmacokinetics and pharmacodynamics to the rational design of individualized drug dosage regimens in the total clinical context, taking into account such special problems as hepatic and renal functional impairment, and the effects of disease, immaturity of drug metabolizing enzymes, and drug interactions

## 20 Course aims and outcomes:

### A- Aims:

- To understand the effect of various disease states and factors are responsible for altering the pharmacokinetics of specific drugs.
- To design appropriate dosing regimen based on 1) population-specific information or 2) estimated patient-specific information for drugs discussed in this course
- To evaluate a dosing regimen based on monitored blood concentrations, patient-specific information, physiologic changes associated with special populations, drug interactions, and switching of dosage forms for drugs discussed in this course
- To understand the importance of pharmacokinetic and pharmacodynamic principles in different pharmacy setting.
- To evaluate the literature related to the pharmacokinetics of specific drugs.

### B- B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

Disriptors	CLO No.	SLOs of the program (PLOs) SLOs of the course (CLOs)	Learner	Care Giver	Leader - Professional
Knowledge	K1	Describe the basic pharmacokinetic principles and key pharmacokinetic parameters.			
	K2	Discuss various aspects of a drug's pharmacokinetic properties and factors affecting them.			
	K3	Discuss the effect of different disease states on the pharmacokinetics and pharmacodynamics of drugs			
Skills	S1	Prepare therapeutic drug monitoring plan of various drugs.			
	S2	Prepare initial dosage regimen plan			
	S3	Prepare revised or adjusted dosage regimen plan.			
Competencies	C1	Recommend initial dosage regimen, or adjust dosage and recommend monitoring strategy to ensure safe and effective drug therapy.			

## 21. Topic Outline and Schedule:

## 22. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcome (CLOs)	Teaching Methods*/platform	Evaluation Methods**	References
1	1.1	Introduction to Clinical Pharmacokinetics: Concepts, Equations and Calculations	K1	Microsoft teams	Discussion	As mentioned below
	1.2			Microsoft teams	Discussion	As mentioned below
2	2.1	Drug Therapy Individualization for Patients with Chronic Kidney Disease	K3	Microsoft teams	Discussion	As mentioned below
	2.2			Microsoft teams	Discussion	As mentioned below
3	3.1	Drug Therapy Individualization in Patients with Hepatic Disease	K3	Microsoft teams	Discussion	As mentioned below
	3.2			Microsoft teams	Discussion	As mentioned below

	3.3	First Quiz (Renal disease)		Moodle	Quiz	As mentioned below
4	4.1	TDM of Vancomycin	K2, K3	Microsoft teams	Discussion	As mentioned below
	4.2			Microsoft teams	Discussion	As mentioned below
5	5.1	TDM of Vancomycin (Case discussion)	S1,S2,S3 ,C1	Microsoft teams	Discussion	As mentioned below
	5.2	Second Quiz (Vancomycin)		Moodle	Quiz	As mentioned below
6	6.1	TDM of Digoxin	K2, K3	Microsoft teams	Discussion	As mentioned below
	6.2	TDM of Digoxin (Case discussion)	S1,S2,S3 ,C1	Microsoft teams	Discussion	As mentioned below
7	7.1	TDM of Tacrolimus	K2, K3	Microsoft teams	Discussion	As mentioned below
	7.2	Midterm Exam		Microsoft teams	Midterm Exam	As mentioned below
8	8.1	TDM of Cyclosporine	K2, K3	Microsoft teams	Discussion	As mentioned below
	8.2	TDM of Cyclosporine (Case discussion) + Midterm exam discussion	S1,S2,S3 ,C1	Microsoft teams	Discussion	As mentioned below

9	9.1	TDM of Phenytoin	K2, K3	Microsoft teams	Discussion	As mentioned below
	9.2			Microsoft teams	Discussion	As mentioned below
10	10.1	TDM of Phenytoin (Case discussion)	S1,S2,S3 ,C1	Microsoft teams	Discussion	As mentioned below
	10.2	Third Quiz (Cyclosporine)		Moodle	Quiz	As mentioned below
11	11.1	TDM of Aminoglycosides	K2, K3	Microsoft teams	Discussion	As mentioned below
	11.2	TDM of Aminoglycosides (case discussion)	S1,S2,S3 ,C1	Microsoft teams	Discussion	As mentioned below
12	12.1	TDM of Valproic Acid	K2, K3	Microsoft teams	Discussion	As mentioned below
	12.2	TDM of Carbamazepine	K2, K3	Microsoft teams	Discussion	As mentioned below

## 22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Quiz 1	10	TDM of Digoxin	3,4,5,6	Week 4	Moodle
Assignment	10	TDM of cyclosporine TDM of Tacrolimus	3,4,5,6	Week 9-10	Moodle
Midterm Exam	30	Weeks 1-6 topics	1,2,3,4,5,6	Week 6-7	Face to face
Final Exam	50	All topics	1,2,3,4,5,6	Week 13-14	Face to face

## 23 Course Requirements

(e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc):

## 24 Course Policies:

A- Attendance policies:

Live attendance: Mandatory.

First warning – with 4 absences

Last warning – with 5 absences

Failing in the subject – with 6 absences

B- Absences from exams, quizzes, discussion, and submitting assignments on time:

Will result in zero achievement unless health report or other significant excuse is documented.

C- Health and safety procedures:



D- Honesty policy regarding cheating, plagiarism, misbehavior:

The participation, the commitment of cheating will lead to applying all following penalties together

- 1) Failing the subject he/she cheated at
- 2) Failing the other subjects taken in the same course
- 3) Not allowed to register for the next semester. The summer semester is not considered as a semester

E- Grading policy:

F- Available university services that support achievement in the course:

## 25 References:

A- Required book(s), assigned reading and audio-visuals:

Bauer, Larry A. "Applied clinical pharmacokinetics." (2014): 619.

B- Recommended books, materials, and media:

## 26 Additional information:

Name of Course Coordinator: Mohammad I Saleh Signature: ----- Date: November 2,2023

Head of Curriculum Committee/Department: ----- Signature: -----  
---

Head of Department: ----- Signature: -----  
-





مركز الاعتماد  
وإضمان الجودة  
ACCREDITATION & QUALITY ASSURANCE CENTER

Head of Curriculum Committee/Faculty: ----- Signature: -----  
-----

Dean: ----- Signature: -----

-