### **Course Description Form**

### 1. Course Name:

Therapeutic Drug Monitoring (Theoretical + Practical)

2. Course Code:

Phclp24\_5213--

3. Semester / Year:

2<sup>nd</sup> Semester / 5<sup>th</sup> year

4. Description Preparation Date:

1/9/2024

5. Available Attendance Forms:

Students' signature on attendance sheet

- 6. Number of Credit Hours (Total) / Number of Units (Total)
  - 2 hours theoretical + 2 hours practical per week / 3 units
- 7. Course administrator's name (mention all, if more than one name)

### Theoretical + Practical

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### 8. Course Objectives

# **Course Objectives**

- To study the basic principle of drug kinetics.
- To study the applications of clinical pharmacokinetics equations and calculations
- To study the clinical pharmacokinetics/ pharmacodynamics principle of antibiotics, cardiovascular agents and other drugs.

## 9. Teaching and Learning Strategies

Strategy	Lecturin
	Quiz

Educational videos

#### 10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2+2	Understanding the basic principles of drug kinetics.	Review of clinical pharmacokinetic (PK)/ pharmacodynamic (PD) Principles. (part 1)	Lecture with video	Paper-based exam

	1				
2	2+2	Understanding	Review of clinical	Lecture	Paper-based
		the basic principles of	pharmacokinetic (PK)/		exam
		drug kinetics.	pharmacodynamic (PD)		
			principles (part 2)		
3	2+2	Using of clinical	Clinical PK equations and	Lecture	Paper-based
		PK equations to	calculations (Extravascular		exam
		calculate the required	Equation), part 1		
		dose			
4	2+2	Using of clinical	Clinical PK equations and	Lecture	Paper-based
		PK equations to	calculations (Multiple-Dose		exam
		calculate the required	and Steady-State Equations)		
		dose	part 2		
5	2+2	Understanding the	Clinical PK in special	Lecture	Paper-based
		Clinical PK in special	population and cases		exam
		population and cases			
6	2+2	Understanding	Clinical PK/PD for	Lecture	Paper-based
		therapeutic drug	Antibiotics		exam
		monitoring (TDM) of	(Aminoglycoside)		
		aminoglycoside			
7	2+2	Understanding TDM	Clinical PK/PD for	Lecture	Paper-based
		of vancomycin	Antibiotics (vancomycin)		exam
8	2+2	Understanding TDM	Clinical PK/PD for	Lecture	Paper-based
		of digoxin	Cardiovascular agents		exam
			(Digoxin)		
9	2+2	Understanding TDM	Clinical PK/PD of other	Lecture	Paper-based
		of theophylline	drugs (Theophylline)		exam

## 11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

- 25 M (midterm + written exams)
- 15 M (written exams of practical part+ attendance)
- 60 M (final exam)
- 100 M total

100 1/1 00001	
12. Learning and Teaching Resources	
Required textbooks (curricular	
books, if any)	
Main references (sources)	Applied Clinical Pharmacokinetics, Second Edition, 200
	by Larry A. Bauer.
Recommended books and references	Clinical Pharmacokinetics Concepts and Applications,
(scientific journals, reports)	Third Edition, 1995 by Malcolm Rowland and Thomas
	Tozer;
Electronic References, Websites	
Updating in curriculum percentage	0%