Course Plan for Bachelor Program - Study Plan Development and Updating Procedures/ Pharmacy Department	QF02/0408-4.0E

Study Plan No.	**2021/2022**		**University Specialization**		**Bachelor of Pharmacy**	
Course No.	**0201373**		**Course Name**		**Biopharmaceutics and Pharmacokinetics Lab**	
Credit Hours	**1**		**Prerequisite *Co-requisite**		**Pharmacology (1) + Pharmaceutical Dosage Forms (2) + *Biopharmaceutics and Pharmacokinetics**	
Course Type	☐ Mandatory University Requirement	☐ University Elective Requirement	☐ Faculty Mandatory Requirement	☐ Support course family requirements	☑ **Mandatory Requirement**	☐ Elective Requirement
Teaching Style	☐ Full Online Learning		☐ Blended Learning		☑ **Traditional Learning**	
Teaching Model	☐ 1 Synchronous: 1 Asynchronous		☐ 1 Face to Face: 1 Asynchronous		☑ **1 Traditional**	

Faculty Member and Study Divisions Information *(to be filled in each semester by the subject instructor)*

Name	Academic rank	Office No.	Phone No.	E-mail	
Office Hours (Days/Time)	**Sunday, Tuesday, Thursday ()**		**Monday, Wednesday ()**		
Division number	**Time**	**Place**	**Number of Students**	**Teaching Style**	**Approved Model**
				Traditional Learning	**1 Traditional**

Brief Description

Biopharmaceutics & Pharmacokinetics Lab prepare student to understand the kinetics of drug absorption, distribution, and elimination (i.e, metabolism and excretion) to describe how biopharmaceutics affects drug product performance and how pharmacokinetics is related to pharmacodynamics and drug toxicity.

Learning Resources

Course Book Information (Title, author, date of issue, publisher ... etc)	Applied Biopharmaceutics & Pharmacokinetics; Leon Shargel, , and Andrew B.C. Yu, Seventh Edition ; 2016 ; McGraw-Hill Education.
Supportive Learning Resources (Books, databases, periodicals, software,	Concepts in clinical pharmacokinetics; Joseph T. DiPiro ; William J. Spruill ; William E. Wade; Jane M. Pruemer , and Robert A. Blouin ,4th Ed. (2005); American Society of Health-System Pharmacists.

applications, others)				
Supporting Websites				
The Physical Environment for Teaching	☑ **Classroom**	☐ Labs	☑ **Virtual Educational Platform**	Others:
Necessary Equipment and Software	Moodle			
Supporting People with Special Needs				
For Technical Support	E-Learning & Open Educational Resources Center. Email: elearning@zuj.edu.jo; Phone: +962 -6-429 1511.			

Course learning outcomes *(K= Knowledge, S= Skills, C= Competencies)*

No.	Course Learning Outcomes	The Associated Program Learning Output Code
Knowledge **The student should be able to:**		
K1	Identify the different Pharmacokinetics models, including different rate of process.	**MK3**
K2	Describe various ADME processes in different pharmacokinetic models.	**MK3**
Skills **The student should be able to:**		
S1	Implement the calculations needed to develop appropriate therapeutic dosing regimens.	**MS1**
S2	Solve different problems using the relevant equations to calculate different pharmacokinetics parameters.	**MS1**
S3	Distinguish the appropriate application and limitations of different pharmacokinetic models.	**MS1**
Competencies **The student should be able to:**		
C1	Formulate appropriate dosing regimen (single- or multiple-dose) for individualized drug therapy, based on information from single-dose studies or from literature	**MC1**
C2	Take responsibility of personal and professional development by following up the weekly activities and handing the pharmacokinetics assignments on time.	**MC3**

Mechanisms for Direct Evaluation of Learning Outcomes

Type of Assessment / Learning Style	Fully Electronic Learning	Blended Learning	Traditional Learning (Theory Learning)	Traditional Learning (Practical Learning)
Midterm Exam	30%	30%	30%	**0%**
Participation / Practical Applications	0%	0%	20%	**50%**

Asynchronous Interactive Activities	20%	20%	0%	**0%**
Final Exam	50%	50%	50%	**50%**

Note 1: *Asynchronous interactive activities are activities, tasks, projects, assignments, research, studies, projects, and work within student groups ... etc, which the student carries out on his own, through the virtual platform without a direct encounter with the subject teacher.*

Note 2: *According to the Regulations of granting Master's degree at Al-Zaytoonah University of Jordan, 40% of final evaluation goes for the final exam, and 60% for the semester work (examinations, reports, research or any scientific activity assigned to the student).*

Schedule of Simultaneous / Face-to-Face Encounters and their Topics

Week	Subject	Learning Style*	Reference ** Pages (textbook)
1	**Check In**		
2	General Introduction: Mathematical Fundamentals	Lecture+ learning through problem solving	Introduction manual
3	**Revision of rate and order concepts, Use of graph papers.**	Lecture+ learning through problem solving	Exp 1 manual
4	**One compartment IV bolus-single dose**	Lecture+ learning through problem solving	Exp 2 manual
5	**Calculation of K from urinary excretion data**	Lecture+ learning through problem solving	Exp 3 manual
6	**Two compartment IV bolus-single dose**	Lecture+ learning through problem solving	Exp 4 manual
7	**One compartment IV infusion-single dose**	Lecture+ learning through problem solving	Exp 5 manual
8	**One compartment oral dosage form-single dose**	Lecture+ learning through problem solving	Exp 6 manual
9	**Multiple dosage regimen: repetitive IV bolus**	Lecture+ learning through problem solving	Exp 7 manual
10	**Renal and hepatic clearance + Bioavailability**	Lecture+ learning through problem solving	Exp 8 manual
11	**Check Out**		
12			
13			
14			
15			
16	**Final Exam**		--

** Learning styles: Lecture, flipped learning, learning through projects, learning through problem solving, participatory learning ... etc.*

*** Reference: Pages in a book, database, recorded lecture, content on the e-learning platform, video, website ... etc.*

Schedule of Asynchronous Interactive Activities *(in the case of e-learning and blended learning)*

Week	Task / Activity	Reference	Expected Results
-	-	-	-