



Jerash University
Faculty of pharmacy
Department of pharmaceutical science

Course Syllabus

Course Title: Biopharmaceutics & Pharmacokinetics (2) lab	Course code: 1101425
Course Level: Fourth	Course prerequisite(s) and/or co requisite(s): Biopharmaceutics & Pharmacokinetics (2)
Lab Time: Sunday: 8-10	Credit hours: 1 Credit hour

Academic Staff

Specifics

Name	Rank	Office Number and Location	Office Hours	E-mail Address
Dr. Eyad Qunaibi	Associate Professor	Office (409) Faculty of Pharmacy, Phone (513)		eyadqunaibi@yahoo.com

Course module description:

In this course, the student applied the concepts he learns in the course Biopharmaceutics & Pharmacokinetics (2). Discussions are made on calculation of pharmacokinetic parameters related to single and multiple oral dosing, calculation of area under the plasma concentration versus time curve, assessment of bioavailability of different dosage forms and bioequivalence of two formulations, in addition to calculations related to two compartment intravenous dosing. The students are also taught how to use interactive pharmacokinetic websites and design and use Excel pharmacokinetic spread sheets for the subjects mentioned above.

Course module objectives:

By the end of the course students should be able to:

1. Plot real and simulative data of single and multiple extravascular dosing and calculate the relevant pharmacokinetic parameters from these plots.
2. Calculate bioavailability and bioequivalence parameters.
3. Design and use Excel datasheets for the determination of the above mentioned parameters.
4. Use interactive pharmacokinetic websites such as www.boomer.org.

Course/ module components

- Power point presentations, group discussions on how to plot data on semilogarithmic and rectilinear papers, interactive pharmacokinetics websites, Excel sheets, pharmacokinetics lab provided with computer stations.

References:

Reference 1: Basic Pharmacokinetics. Sunil S. Jambhekar and Philip J. Breen. 2nd edition, 2012.

Reference 2: the website: www.boomer.org.

Teaching methods:

No	Teaching Strategies and Methods
1	Formal teaching lectures (Tools: board, data show)
2	Problem-solving groups
3	Interactive pharmacokinetic websites
4	Excel spread sheets.

Learning outcomes:

- The same as those mentioned under (Course Objectives) with emphasis on:
 1. Critical thinking.
 2. Problem-solving skills.
 3. Qualifying the students to self-learn, search for related information.
 4. Digital literacy (use databases, most recent guidelines, webpages, and applications that are related to the diseases they learn about).

Assessment instruments

Exams and quizzes.

<u>Allocation of Marks</u>	
Assessment Instruments	Mark
Mid examination	30%
Quizzes and group problem solving	30%
Final examination	40%
Total	100%

Course/module academic calendar

Week	Basic and support material to be covered
(1)	Introduction
(2)	Extravascular routes of drug administration
(3)	Extravascular routes of drug administration
(4)	Bioavailability/bioequivalence
(5)	Bioavailability/bioequivalence
(6)	The use of www.boomer.org interactive pharmacokinetic website for plotting and calculation of pharmacokinetic

	parameters related to the previous subjects and multiple extravascular dosing
(7) First examination	Exam
(8)	Discussion of the correct answers of the exam
(9)	Design of Excel pharmacokinetic spread sheets
(10)	Design of Excel pharmacokinetic spread sheets
(11)	Design of Excel pharmacokinetic spread sheets
(12)	Problem solving using the spread sheets that each student designed
(13) Final Examination	

Attendance policy:

Absence from lectures and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse acceptable to and approved by the Dean of the relevant college/faculty shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

References:

Reference 1: Basic Pharmacokinetics. Sunil S. Jambhekar and Philip J. Breen. 2nd edition, 2012.

Reference 2: the website: www.boomer.org.