

## Planning and Quality Assurance Affairs

Form (A)

### Course Specifications

#### General Information

<b>Course name</b>	Biopharmaceutics & Pharmacokinetics 1
<b>Course number</b>	PHTC3213
<b>Faculty</b>	
<b>Department</b>	
<b>Course type</b>	Major Needs
<b>Course level</b>	3
<b>Credit hours (theoretical)</b>	2
<b>Credit hours (practical)</b>	0
<b>Course Prerequisites</b>	

#### Course Objectives

1 - •	Have a basic understanding of the scope and impact of biopharmaceutics and pharmacokinetics.
2 -	Have a general knowledge of the factors affecting the rate and extent of drug absorption, distribution, metabolism and excretion.

#### Intended Learning Outcomes

<b>Knowledge and Understanding</b>	* Describe the principles of pharmacokinetics and biopharmaceutics
<b>Intellectual Skills</b>	* Apply pharmaceutical knowledge in the formulation of safe and effective medicines and new drug delivery systems as well as dealing with new drug delivery systems.
	* Recognize and control potential physical and/or chemical incompatibilities that may occur during drug formulation and dispensing.
<b>Professional Skills</b>	* Conduct research studies regarding the physico-chemical properties affecting the drug absorption
<b>General Skill</b>	* Work effectively as a part of a team
	* Implement writing and presentation skills

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## Course Contents

- 1 - Introduction to Biopharmaceutics and pharmacokinetics 1.
- 2 - Libration, absorption, Distribution, metabolism and excretion of drugs.
- 3 - Biological membrane structure, mechanisms of absorption, factors affecting the drugs absorption.
- 4 - Routes of drug administration, oral route of administration, buccal and sublingual route of administration.
- 5 - Gastric absorption. Intestinal absorption, factors affecting the gastrointestinal absorption.
- 6 - Rectal absorption. Rectal suppositories and therapeutic uses. Factors affecting the rectal absorption.
- 7 - Parenteral routes of administration: Advantages and disadvantages, steps of absorption, factors affecting the intramuscular absorption of drugs.
- 8 - Subcutaneous administration of drugs: Steps of absorption, factors affecting the subcutaneous absorption of drugs.
- 9 - Intravascular administration of the drug: advantages and disadvantages, manners of administration (Bolus and infusion).
- 10 - The intranasal route of administration, the vaginal route of administration, the ear administration of the drugs.
- 11 - The ocular route of administration, advantages and disadvantages, factors affecting the ocular drug permeability.
- 12 - Pulmonary route of administration of the drugs, factors affecting the drug absorption.

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## Books and References

Essential books	Shargel,L. and Yu, A.B.C (2005).Applied Biopharmaceutics and Pharmacokinetics. Pharmaceutical Dosage forms and Drug delivery systems. Howard C.Ansel.
Recommended books	Biopharmaceutics and Pharmacokinetics. Milo Gibaldi. Wagner J.G.: fundamentals of Clinical Pharmacokinetics.