

St.James College of Pharmaceutical Sciences St.James medical Academy River Bank, Chalakudy			
Programme:	Pharm D	Sem.:	II SEMESTER
Name of Course: (Subject)	CLINICAL PHARMACOKINETICS AND THERAPEUTIC DRUG MONITORING	Course Code:	
Teaching faculty of the course	AJI VARGHESE		

### Summary of the Lecture Plan

Topic	Lectures	Hours
Introduction to Clinical pharmacokinetics	Compartmental and Non compartmental models	1
	Organ extraction and models of hepatic clearance	1
	Estimation and determinants of bioavailability	2
	Calculation of loading and maintenance doses	2
	Renal and non-renal clearance	2
	Determination of dose and dosing intervals,	2
	Conversion from intravenous to oral dosing	1
	Nomograms and Tabulations in designing dosage regimen.	1
Pharmacokinetics of Drug Interaction	Pharmacokinetic drug interactions,	2
	Inhibition and Induction of Drug metabolism	2
	Inhibition of Biliary Excretion	2
	Genetic polymorphism in Drug metabolism	2
	Genetic Polymorphism in Drug Transport and Drug Targets	2
	Pharmacokinetic/Pharmacodynamic considerations	2
	Introduction to Bayesian Theory	2
NonLinear Mixed Effects Modelling	Modeling Random Effects	2
	Modeling Covariate Relationships	2
	Estimation Method	2
	Covariate Screening Methods	2
	Simulation of dosing regimens and dosing recommendations	2
		2
Altered Pharmacokinetics	Drug dosing in the elderly	2
	Drug dosing in the paediatrics	2
	pregnancy and lactation	2

Therapeutic Drug monitoring	Indications for TDM, Protocol for TDM	2
	Pharmacokinetic/Pharmacodynamic Correlation in drug therapy	4
	Individualization of drug dosage regimen	3
Introduction to Clinical pharmacokinetics		
Organ extraction and models of hepatic clearance		
Different models		
Bioavailability		
Pharmacokinetics of Drug Interaction		
Pharmacokinetic drug interactions,		
Pharmacogenetics & Pharmacometrics		
Non-linear Mixed Effects Modelling		
Screening Methods		
Simulation of dosing regimens and dosing recommendations,		
Modeling Random Effect		
Altered Pharmacokinetics		
Drug dosing in the elderly		
Drug dosing in the paediatrics		
pregnancy and lactation		
Therapeutic Drug monitoring		
Pharmacokinetic/Pharmacodynamic Correlation in drug therapy		
Indications for TDM, Protocol for TDM		
Individualization of drug dosage regimen		