

NIH Principles of Clinical Pharmacology 2017-2018 Course Syllabus

Module 1: Introduction to Clinical Pharmacology

Session	Presenter
Introduction to Clinical Pharmacology and Therapeutics	Dr. Juan J. L. Lertora
Introduction to Pharmacology, Drug Development and Clinical Pharmacology	Dr. William Douglas Figg
Practical Pharmacology	Dr. Anne Zajicek
Biochemical Mechanisms for Drug Toxicity	Dr. A Beasley Green

Module 2: Pharmacokinetics

Session	Presenter
Drug Absorption and Bioavailability	Dr. Jan Beumer
Use of Positron Emission Tomography (PET) in Pharmacokinetics	Dr. Robert Innis
Compartmental Analysis of Drug Distribution	Dr. Art Atkinson
Noncompartmental vs. Compartmental Approaches to Pharmacokinetic Analysis	Dr. Paolo Vicini
Population Pharmacokinetics	Dr. Robert R. Bies
Chemical Analysis of Drugs and Metabolites	Dr. Sanford P. Markey
Pharmacokinetics/Pharmacodynamics of Protein Drugs	Dr. Jurgen Venitz

Module 3: Drug Metabolism and Transport

Session	Presenter
Pathways of Drug Metabolism	Dr. Sanford P. Markey
Drug Transporters in ADME and Drug Action	Dr. Joseph Ware
P-Glycoprotein and Drug Transport Part 1	Dr. Michael Gottesman
P-Glycoprotein and Drug Transport Part 2	Dr. Matthew Hall
Membrane Transport	Dr. Kathy Giacomini
Drug Transport Across the Blood Brain Barrier	Dr. Sadhana Jackson

Module 4: Pharmacokinetics and Drug Therapy in Special Populations

Session	Presenter
Pharmacokinetics in Patients Requiring Renal Replacement Therapy Part 1	Dr. Arthur Atkinson
Pharmacokinetics in Patients Requiring Renal Replacement Therapy Part 2	Dr. Gregory Susla
The Liver and Drugs	Dr. Jurgen Venitz
Drug Therapy in Pregnant and Nursing Women	Dr. Anne Zajicek
Developmental and Pediatric Pharmacology	Dr. John N. van den Anker
Drug Therapy in the Geriatric Population	Dr. Darrell R. Abernathy
Pharmacokinetics and Obesity	Dr. Manjunath Pai

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Module 5: Assessment of Drug Effects

Session	Presenter
Biomarkers of Drug Effects	Dr. Robert Schuck
Pharmacodynamic and Pharmacokinetic Modeling of Data	Dr. Joga Gobburu
Disease Progression Models	Dr. Diane Mould
Role of Pharmacodynamics in Drug Development	Dr. James Doroshow
Immunotherapeutics	Dr. James Gulley

Module 6: Drug Discovery and Development

Session	Presenter
Drug Discovery	Dr. Edward Sausville
Quantitative Systems Pharmacology	Dr. D. Lansing Taylor
Computational Methods of Drug Discovery and Design	Dr. Glen Kellogg
Combinatorial Drug Screening	Dr. Craig Thomas
Animal Scale Up and First-in-Human Studies	Dr. Jerry Collins
Dose Selection and Optimization in the Adult Population	Dr. Yaning Wang
Drug Development in the Pediatric Population	Dr. Anne Zajicek
Drug Formulation and Delivery	Dr. Ping Gao
Natural Products	Dr. Barry O'Keefe
T-Cell Therapies: Principles and Practice	Dr. James Yang
Pharmacokinetic and Pharmacodynamic Considerations in the Development of Macromolecules	Dr. Pamela Garzone
Design of Clinical Drug Development Programs	Dr. Christopher D. Breder
FDA Approval Considerations	Dr. Paul Kluetz

Module 7: Pharmacogenomics and Pharmacotherapy

Session	Presenter
Pharmacogenomics	Dr. Michael Pacanowski
Dose Modifications Based on Pharmacogenetics Research	Dr. Howard McLeod
Clinical Pharmacogenomics Testing	Dr. Mary Relling
Clinical Drug Interactions	Dr. Sarah Robertson
Clinical Assessment of Adverse Drug Reactions	Dr. Christopher D. Breder
Post-Marketing Drug Safety Surveillance	Dr. Timothy Jancel
Quality Assurance for Drug Therapy	Dr. Charles Daniels