

# Pharmacology BSc 2012-13

## Module 1: Principles of Pharmacodynamics & Pharmacokinetics

Module Leader: Dr Robert Dickinson

[r.dickinson@imperial.ac.uk](mailto:r.dickinson@imperial.ac.uk)

All lectures at South Kensington (SAF building)

October 8th – November 9th 2012

Term 1 Week 1	Theme	Title	Teacher	Venue
Mon 08/10/2012	<i>Quantitative Pharmacology</i>	09:00-09:30 – Introduction to Module (RD) 09.30-10.30 – Revision of mathematics (RD) 10.45-11.45 – Pharmacokinetics: single & multi-compartment models 1 (RD) 12:00-13:00 – Drug administration, bioavailability and targeted drug delivery (JB)	Dr Dickinson Dr Dickinson Dr Dickinson  Dr Bundy	119
Tue 09/10/2012	<i>Quantitative Pharmacology</i>  <i>Diffusion &amp; Active transport</i>	11.00-12.00 – Pharmacokinetics: single and multi-compartment models 2 (RD) 12:00-13:00 – Receptor Pharmacodynamics (RD)  14:00 - 15:00 – The Blood Brain Barrier (EW) 15:00 - 17:00 – PBL1 Quantitative analysis of drug action: Schild plots & calculation of EC50s from raw data (1) (RD)	Dr Dickinson Dr Dickinson  Dr Want Dr Dickinson	G16 G16  119 119
Wed 10/10/2012		10.00-12.00 – PBL1 Work alone session		
Thu 11/10/2012	<i>Drug Metabolism &amp; toxicology</i>  <i>Pharmacogenetics &amp; Pharmacogenomics</i>  <i>Quantitative Pharmacology</i>	09:00-10:00 – Drug metabolism and excretion 1 (MC) 10.00-11.00 – Drug metabolism and excretion 2 (MC) 11:00-12:00 – Principles of pharmaco-genetics and pharmacogenomics (MD) 12:00- 13:00 – Multivariate Statistics (MD) 14:00-16:00 – PBL1 Quantitative analysis of drug action: Schild plots & calculation of EC50s from raw data (2) (RD)	Dr Coen Dr Coen Dr Dumas Dr Dumas  Dr Dickinson	119
Fri 12/10/2012		Private Study		
Term 1 Week 2	Course component	Title	Teacher	Venue
Mon 15/10/2012		Private Study		
Tue 16/10/2012	<i>Drug Metabolism &amp; toxicology</i>  <i>Pharmacogenetics &amp; Pharmacogenomics</i>  <i>Research Methods</i>	10.00-11.00 – Tutorial - Drug metabolism and excretion (MC) 11.00-12.00 – Pharmaco-genetics & pharmaco-metabonomics (MD) 14.00-15.00 – Structural analysis of drugs and their targets 1 (TJA) 15.00-16.00 – Structural analysis of drugs and their targets 2 (TJA)	Dr Coen Dr Dumas Dr Athersuch Dr Athersuch	119
Wed 17/10/2012	<i>Enzymes &amp; Nuclear Receptors as Drug Targets</i>	10.00-11.00 – Enzymes as Drug targets (MD) 11:00-12:00 – Nuclear Receptors (MD)	Dr Dumas Dr Dumas	MDL2 Bay D
Thu 18/10/2012		10.00-13.00 – Private study - essay preparation		
Fri 19/10/2012	<i>Pharmacogenetics &amp; Pharmacogenomics</i>	10.00-12.00 – Tutorial: Pharmacogenomics and pharmacometabonomics (MD) 14:00 -15:00 – Phase 1 Enzyme Polymorphisms (MD) 15:00-16:00 – Phase 2 enzyme polymorphisms (MD)	Dr Dumas Dr Dumas Dr Dumas	119

Term 1 Week 3	Course component	Title	Teacher	Venue
Mon 22/10/2012	<i>In-course assessment</i>	<b>10.00-12.00 – Tutorial - Essay preparation (RD)</b>	Dr Dickinson	<b>119</b>
Tue 23/10/2012	<i>Diffusion &amp; Active transport</i>	<b>11:00-12:00 – Transport of drugs across biological membranes (TJA)</b> <b>14:00-16:00 – PBL2 Analysis of drug transport across cell membranes (1) (TJA)</b>	Dr Athersuch Dr Athersuch	<b>280 (MDL2)</b>
Wed 24/10/2012		<b>PBL2 Work alone session</b> <b>Private study - essay and talk preparation</b>		
Thu 25/10/2012	<i>Advanced Topics</i>	<b>10:00-11:00 – Pharmacology in Action: Molecular mechanisms of general anaesthesia (RD)</b> <b>14:00-15:00 – Diabetes &amp; Diabetes Drug Treatments 1 (ST)</b> <b>15:00-16:00 – Diabetes &amp; Diabetes Drug Treatments 2 (ST)</b>	Dr Dickinson Dr Trapp Dr Trapp	<b>119</b> <b>MDL2 (bay D)</b> <b>MDL2 (bay D)</b>
Fri 26/10/2012	<i>Research Methods</i>	<b>09:00-13:00 – Neuropharmacology Research Workshop (RD/ST)</b>	Dr Dickinson /Dr Trapp	<b>164 (MDL1)</b>
Term 1 Week 4	Course component	Title	Teacher	Venue
Mon 29/10/2012	<i>Drug Metabolism &amp; toxicology</i>	<b>10.00-12.00 – PBL 3 Problems of drug administration during pregnancy 1 (EW)</b>	Dr Want	<b>119</b>
Tue 30/10/2012	<i>Research Methods</i> <i>Diffusion &amp; Active transport</i>	<b>10.00-11.00 – Molecular Modelling in Drug Development (TJA)</b> <b>14:00 -15:00 – P-glycoprotein and the removal of drugs from cells (TJA)</b> <b>15:00-16:00 – Biological Substances as drugs, including gene therapy (EW)</b>	Dr Athersuch Dr Athersuch Dr Want	<b>119</b> <b>119</b> <b>119</b>
Wed 31/10/2012	<i>Diffusion &amp; Active transport</i>	<b>10.00-12.00 – PBL2 Analysis of drug transport across cell membranes (2) (TJA)</b>	Dr Athersuch	<b>MDL1 (Bay D)</b>
Thu 1/11/2012	<i>Research Methods</i>	<b>14:00-15:00 – Introduction to metabonomics (MC)</b> <b>15:00-16:00 – Application of metabonomics to toxicology and pharmacology (MC)</b>	Dr Coen Dr Coen	<b>119</b> <b>119</b>
Fri 2/11/2012	<i>Research Methods</i>	<b>10:00-11:00 – Preclinical in vitro/in vivo models in drug development (MC)</b>	Dr Coen	<b>119</b>
Term 1 Week 5	Course component	Title	Teacher	Venue
Mon 5/11/2012	<i>Advanced Topics</i>	<b>10:00-11:00 – Evolutionary conservation of drug action: from flies to man 1</b> <b>11:00- 12:00 – Evolutionary conservation of drug action: from flies to man 2</b>	Dr Gilestro Dr Gilestro	<b>119</b> <b>119</b>
Tue 6/11/2012	<i>Advanced Topics</i> <i>Drug Metabolism &amp; toxicology</i>	<b>10:00-11:00 – GABA Receptor Pharmacology (CH)</b> <b>11:00-12:00 – The Pharmacology of Sleep (AZ)</b> <b>12:00-13:00 – The Pharmacology of Neuromuscular Blockade (CJE)</b> <b>14:00-16:00 – PBL 3 Problems of drug administration during pregnancy 2 (EW)</b>	Dr Houston Dr Zecharia Dr Edge Dr Want	<b>119</b> <b>119</b> <b>119</b> <b>119</b>
Wed 7/11/2012		<b>09:00 -13:00 Private Study Essay &amp; Talk Preparation</b>		
Thu 8/11/2012	<i>In-course assessment</i>	<b>12:00-13:00 – In-Course Assessment Presentations (all)</b> <b>14:00-16:30 – In-Course Assessment Presentations (all)</b> <b>16:30-17:00 – Feedback Session (all)</b>	Drs Dickinson/ Coen/ Dumas/ Athersuch/ Want	<b>MDL2 (Bay D)</b>
Fri 9/11/2012				