Liverpool John Moores University

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Title:	SCIENTIFIC BASIS OF THERAPEUTICS 2 FOR PCS PROGRAMMES
Status:	Definitive
Code:	**5004SBACAP** (113408)
Version Start Date:	01-08-2019
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
Vicki Anderson	Y
Peter Penson	
Elaine Hemers	
James Downing	
Andrew Evans	
Melissa Russell	
Philip Rowe	

Academic Level:	FHEQ5	**Credit Value:**	24	**Total Delivered Hours:**	63.5
Total Learning Hours:	240	**Private Study:**	176.5		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	45
Practical	12
Workshop	4

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	70	2.5
Report	AS2	Coursework: practicals and seminars	30	

Aims

To engender a knowledge and understanding selective elements of the anatomy, physiology and pharmacology of the cardiovascular, respiratory, gastrointestinal, immune and central nervous systems.
To explain the interrelationships between the different systems.
To dissemiminate the physiological knowledge which is deemed necessary to underpin the Level 3 module, Toxicology and Drug Interactions (PHCSB3035).
To facilitate an understanding of pharmacokinetics as it would be applied to drug development.

Learning Outcomes

After completing the module the student should be able to:

1	Demonstrate a knowledge of the basic functions and control of the five physiological systems referred to above.
2	Demonstrate an understanding of the inter-relationships between those systems. In particular, how pathological changes in those systems affect the ADME of drugs.
3	Demonstrate a knowledge of the pharmacology, interactions and side-effects of the major groups of drugs which are used therapeutically for each of the five systems.
4	Describe the physical meaning and pharmaceutical significance of pharmacokinetic parameters.
5	Perform a range of pharmacokinetic calculations

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAM	1	2	3	4
Report	1	5		

Outline Syllabus

The syllabi for each of the systems have a common structure. They will cover the basic anatomy, physiology and pharmacology of each system, placing emphasis upon structure/function relationships. There will also be an introduction to the major pathologies of those systems and to the principal drug treatments thereof.
The syllabi for the respiratory system and ADME have been chosen as illustrations:
Structure/function relationships in the respiratory tract
Control of respiration - central rhythm generator.
Central and peripheral chemoreceptors
Reflexes arising from the respiratory tract
Respiratory control of acid-base balance

An introduction to the pharmacology of the principal groups of drugs used in the treatment of asthma and chronic obstructive pulmonary disease (COPD).
Drug absorption. Volume of distribution. Absorption and elimination rate constants. Half life. Extraction ratio. Bioavailability. Clearance. Compartments. Single iv bolus injection into one and two compartment systems. Extravascular administration. Constant infusion. Multiple dosing. Non-linear regression for fitting experimental data.

Learning Activities

Lectures, tutorials and practicals.

Notes

This module builds upon the physiology and pharmacology in Level 1 Scientific Basis of Therapeutics (PHCSB1035). It will underpin the Level 3 module, Principles of Toxicology and Drug Safety.