Liverpool John Moores University

Title:	SCIENTIFIC BASIS OF THERAPEUTICS II
Status:	Definitive
Code:	**5003SBPHAR** (113407)
Version Start Date:	01-08-2013
Owning School/Faculty:	Pharmacy & Biomolecular Sciences
Teaching School/Faculty:	Pharmacy & Biomolecular Sciences

Team	Leader
James Downing	Y
Neil Henney	
Peter Penson	
Elaine Hemers	
Vicki Anderson	
Elsie Gaskell	
Andrew Evans	
Peter Elliott	

Academic Level:	FHEQ5	**Credit Value:**	24.00	**Total Delivered Hours:**	70.00
Total Learning Hours:	240	**Private Study:**	170		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	26.000
Online	1.000
Practical	19.000
Seminar	3.000
Workshop	19.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Written examination	40.0	2.00
Portfolio	Folio1		35.0	
Portfolio	Folio2		25.0	

Aims

To present the basic physiology and biochemistry that is necessary for an understanding of the modes of action, clinical uses and side effects of the therapeutic agents presented in this Module.

Learning Outcomes

After completing the module the student should be able to:

1	Exhibit laboratory, literature sourcing and referencing skills associated with an understanding of the pharmacology of drugs
2	Design and carry out practical exercises independently and cooperatively in groups (including the systematic, controlled use of drugs and equipment)
3	Communicate practical results, verbally and in writing
4	Demonstrate an understanding of the pharmacology and therapeutic applications of those drugs which affect the systems covered in the Module

Learning Outcomes of Assessments

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

Exam	4		
Folio 1 MP	1	2	3
Folio 2	3	4	

Outline Syllabus

A unifying theme is that of automatic regulatory control to achieve homeostasis of various physiological activities through autocrine, paracrine and endocrine signalling.

Use of organ bath pharmacological assays to understand dose-response characteristics of autonomic and autocoid transmitters; strength of agonist action in terms of efficacy (Emax) and potency (ED50); mimicry and desensitisation; effective and selective dose of antagonists as a basis for therapeutic dose and adverse drug action at higher dose; mode of action of agonists, antagonists, and indirect agonists; qualitative and quantitative interpretation of drug actions: requiring design of controlled comparisons to assess agonist mimicry, effective and selective doses of antagonists and indirect agonists.

Respiratory physiology, pharmacology and therapeutics: structure-function relationships in the respiratory tract; neural and chemical control of respiration; acid-base balance; aetiology and treatment of coughs and colds, allergic rhinitis, rhinorrhea, chronic bronchitis, asthma and tuberculosis.

Endocrinology: central homeostasis; CNS as a controller & integrator of hormone action; hypothalamus/pituitary systems; general anatomy, physiology and pharmacology of alternative axes; ACTH/adrenal cortex and the steroids, thyroid, growth hormone, prolactin, oxytocin and vasopressin; major disease states and treatment associated with each system; lipid homeostasis, regulation of blood glucose; diabetes classification, risk factors, antidiabetic treatments and complications; Calcium metabolism and bone disorder.

Renal pharmacology: modes of action of diuretic substances; hormonal control of osmotic pressure; hormonal control of sodium/potassium metabolism; kidney function tests, disorders and their treatment

Liver: general structure, physiology, disorders and their treatment.

Learning Activities

Active participatory attendance at lectures, tutorials, seminars, workshops and practicals. Problem solving; collaborative group work, peer- and self- assessment. Experimental design, qualitative and quantitative data recording and analysis. Literature searching and referencing. Written and oral reporting. Compilation of a large report preparatory to independent research.

References

Course Material	Book
Author	Barrett, K.E. et. al.
Publishing Year	2009
Title	Ganong's Review of Medical Physiology
Subtitle	
Edition	23rd
Publisher	Lange
ISBN	0071605673

Course Material	Book
Author	Katzung, B.G et. al.
Publishing Year	2009
Title	Basic and Clinical Pharmacology
Subtitle	
Edition	11th
Publisher	Lange
ISBN	0071604057

Course Material	Book
Author	Rang, H.P. et. al.
Publishing Year	2003
Title	Pharmacology
Subtitle	

Edition	5th
Publisher	Churchill Livingstone
ISBN	0443071454

Notes

The Module provides a foundation for the therapeutics-based Modules and for Clinical Pharmacy Practice.

Computer Assisted Learning (CAL) are appropriate to this module. These are accessible from the START menu via "subject software". They include the following: Chart; Experiments on the guinea pig ileum, rabbit jejunum; Asthma and its treatment; Kidney; Liver. Although the information on anatomy and physiology within the CAL packages remains appropriate, some therapeutic classes of drugs identified have become redundant.