

PHARMACOLOGY
HANDBOOK OF STUDY UNITS

B.Sc. (Hons.) (Biology and Chemistry)



UNIVERSITY OF MALTA

**DEPARTMENT OF
CLINICAL PHARMACOLOGY AND THERAPEUTICS**

Academic Years 2006/7

TABLE OF CONTENTS

	PAGE
Introduction	3
Course outline	3
About the Department	3
Staff Members	4
Timetables	4
Assessment	5
Staff-student Liaison	5
General Bibliography and Journals	6

UNIT NO	NO OF CREDITS	TITLE	YEAR	SEMESTER	PAGE
CPH-4500	2	Introduction to Pharmacology for Biology and Chemistry Students	4	1 / 2	8

Introduction

In this section a brief overview about the Department of Clinical Pharmacology and Therapeutics; important information and selected bibliography are given.

Course Outline

Pharmacology is the study of drugs and their action on biological processes. Pharmacologists aim to understand drug action in molecular terms, in order to gain further insight into the nature of man and to develop new drugs with which to combat disease in a more effective and selective manner.

Clinical pharmacology is a medical discipline, which on a scientific basis combines pharmacological and clinical expertise, with the ultimate goal of improving efficacy and safety in the clinical use of drugs. The development of clinical pharmacology as a discipline integrated into the health service system is recommended by WHO. B.Sc. (Hons.) (Radiography) students should receive a thorough grounding in the principles of pharmacology so that they can appreciate the mechanisms of action and clinical applications of drugs that they will encounter during their professional activities. This will help them to carry a framework into their professional lives, which will allow them to interpret the actions and uses of new drugs as they are introduced in clinical practice.

About the Department

The Department of Clinical Pharmacology and Therapeutics has now established itself as a key department in the Faculty of Medicine and Surgery serving several degree courses in the University. It is responsible for co-ordinating all the pharmacology modules and related practical sessions to undergraduate B.Pharm, MD and B.Ch.D. students in the Faculty and has revamped the clinical pharmacology curriculum for the clinical years MD students. In addition, the services of the department are also requested by the Institute of Health Care, Faculty of Education and Institute for Forensic Studies.

The research activities of the Department focus strongly on the pharmacology of drugs used in asthma, epilepsy and immunopharmacology and a number of papers were presented at overseas conferences in this regard. An Outpatients Epilepsy Clinic has been set up in conjunction with the Neurology Department, servicing patients and is serving for the monitoring of research results. On the international scene, the Department has collaborated with the University of Minnesota in organising International Pharmacokinetics School and has strong research interests with the University of Pisa, Italy, Queen's University of Belfast, N. Ireland and Queen's Medical Centre, Nottingham.

Staff Members

Head of Department	Prof. Roger Ellul Micallef	roger.ellul-micallef@um.edu.mt
Senior Lecturer	Dr Janet Mifsud	janet.mifsud@um.edu.mt
Lecturer	Dr Anthony Fenech	anthony.fenech@um.edu.mt
Visiting Lecturer	Dr Mark Micallef	micallef_mj@yahoo.com
Lab Officer III	Mr Joe Portelli	joseph.portelli@um.edu.mt
Lab Officer II	Mr Anthony Buttigieg	anthony.f.buttigieg@um.edu.mt
Executive Officer	Ms Fiona Azzopardi	fiona.azzopardi@um.edu.mt
Secretary	Ms Sharon Agius	sharon.agius@um.edu.mt
Part time lecturers	Dr Doriette Soler	soled@maltanet.net

Contact tel nos +356 23402845, fax +356 21320281

Departmental email clph@um.edu.mt

Timetables and other information about the course

Timetables for lectures and practical/computer sessions and other information about the course will be displayed on the Faculty of Science notice board. This handbook contains information about course requirements, recommended texts and assessment procedures. The information will also be made available on the department's website (<http://home.um.edu.mt/clph/>) which also contains detailed information about the department.

All students are requested to hand in their email address to the departmental secretary, at the beginning of each academic year, in order to be able to organize electronic mailing lists for more efficient dissemination of information.

Assessment

Students will be assessed in a *continuous and final mode* on both practical and theoretical aspects of all the study units, as outlined at the end of the unit description. Students are reminded that it is essential to attend and reach a satisfactory standard in all components of the course. *All study units are compulsory and non compensatory.*

Who to see about a particular problem

Dr Janet Mifsud (Room no 140; Pharmacy Building email janet.mifsud@um.edu.mt) is the co-ordinator of the course and will answer any queries about the course. Students may call her to make an appointment or send their query by email. Questions about particular lectures or classes should be directed to the appropriate lecturer or demonstrator.

Any written assessment should be handed into the Departmental Secretary in Room 207, Chemistry Building, telephone number 23402845.

Staff-Student Liaison

A staff-student liaison person (student representative) should be chosen for each year. All handouts and other material will be given to this delegate for distribution and it is encouraged that all students liase with their representative in order to consult with the teaching staff regarding problems and suggested improvements for the course.

GENERAL BIBLIOGRAPHY

Recommended Textbooks

Laurence and Bennett. Clinical Pharmacology. Churchill Livingstone

Rang, Dale and Ritter. Pharmacology. Churchill Livingstone.

Study Aids

Dale, Dickenson and Haylett. Companion to Pharmacology,. Churchill Livingstone.

Neal. Medical Pharmacology at a glance. Blackwell Science.

Harvey Champ. Pharmacology - Lippincott's Illustrated Reviews. Lippincott-Raven.

Reid, JL, Rubin, PC, Whiting B. Lecture notes on Clinical Pharmacology

Journals (available in Main Library and Medical School Library)

Biopharmaceutics and drug disposition	European Journal of Molecular Pharmacology
British Journal of Pharmacology	European Journal of Pharmacology
Clinical Drug Investigation	Journal of Pharmacokinetics and Biopharmaceutics
Clinical and Experimental Pharmacology and Physiology	Journal of Pharmacy and Pharmacology
Clinical Pharmacokinetics	Pharmacy and Pharmacology Communications
Drug Metabolism and Drug Interactions	Prescriber's Journal
Drug and Therapeutics Bulletin	Pulmonary Pharmacology and Therapeutics
Drugs	Therapeutic Drug Monitoring
Environmental toxicology and Pharmacology	Trends in Pharmacological Sciences
European Journal of Drug Metabolism and Pharmacokinetics	

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Learning Objectives

- i. To provide a sound understanding of the principles underlying the therapeutic action of drugs
- ii. To give students a general introduction to pharmacokinetics i.e. the determinants of the time course of the drug in the body, applying pharmacokinetic principles in order to provide rational drug therapy.
- iii. To provide the students with a basis of different drug delivery systems, the principles underlying drug therapy and issues concerning clinical pharmacology at the extremes of age.

Content

1.	Introduction - definitions and general overview	Dr. Janet Mifsud
2.	Modes of action of drugs	Dr. Anthony Fenech
3.	In vivo development of new drugs	Dr. Charles Scerri
4.	Principles of pharmacokinetics I	Dr. Janet Mifsud
5.	Modes of drug administration	Dr. Anthony Fenech
6.	Principles of pharmacokinetics II	Dr. Janet Mifsud
7.	Pharmacogenetics I	Dr. Anthony Fenech
8.	Special drug formulations	Dr. Anthony Fenech
9.	Pharmacogenetics II	Dr. Anthony Fenech
10.	Bioavailability	Dr Claude Farrugia
11.	Drugs in special populations	Dr. Doriette Soler
12.	Adverse drug reactions	Prof R Ellul-Micallef
13.	Pharmacotoxicology	Dr. Janet Mifsud
14.	Drug Interactions	Prof R Ellul-Micallef

Type

Lectures, seminars, assignments and credit test

Assessment

In the continuous and final mode:

Result

Percentage mark and grade

Lecturers Prof Roger Ellul-Micallef Dr Janet Mifsud Dr Anthony Fenech Dr Doriette Soler Dr Charles Scerri Dr Claude Farrugia