PHRM20001 Pharmacology: How Drugs Work

Credit Points:	12.50
Level:	2 (Undergraduate)
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: Lectures, 3x weekly; Tutorials / workshops (1 hr) 6 / semester; Practicals (3hr) 2 / semester (total contact hours: 48) Total Time Commitment: 120 hours
Prerequisites:	Students should have successfully completed level 1 subjects in Chemistry AND Biology (combined value of 37.5 points). Students wishing to undertake this subject as breadth will need the approval of the subject co-ordinator.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	This subject cannot be taken if credit has been previously obtained for 534-201 Fundamentals of Pharmacology.
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. This subject requires all students to actively and safely participate in laboratory activities. Students who feel their disability may impact upon their participation are encouraged to discuss this with the subject coordinator and the Disability Liaison Unit: http://www.services.unimelb.edu.au/disability/
Coordinator:	Dr Graham Mackay
Contact:	Dr Graham MacKay: **gmackay@unimelb.edu.au (mailto:gmackay@unimelb.edu.au)** Dr Jane Ward: **jane.bourke@unimelb.edu.au (mailto:jane.bourke@unimelb.edu.au)** **Administrative Coordinator:** Ms Hong Nguyen
Subject Overview:	Pharmacology is an exciting discipline that provides insight into the mechanisms of action and beneficial and unwanted effects of drugs in the body. This is achieved by integrating knowledge from a range of biosciences including how the body works in health and disease. his subject uses specific examples of instantly recognizable and newly developed drugs to demonstrate how pharmacologists identify drug targets, design new drugs and test their therapeutic effectiveness.
Objectives:	# To provide an understanding of the basic principles of drug action, this subject focuses on receptor sites that mediate drug action and the physiological and biochemical mechanisms associated with the response to a drug. In addition, the subject investigates the ways in which drugs are handled by the body in terms of their absorption, distribution and metabolism.The activity of hormones and drugs, including commonly used therapeutic agents for cancer, hypertension, asthma and depression are utilised to illustrate these principles. The subject also examines the development of new drugs from natural sources or new chemical syntheses and how these drugs are evaluated and regulated. Aspects of drugs of abuse and addiction and the potential strategies for dealing with this problem are explored. The principles of selective toxicity, the toxicology of environmental contaminants and aspects of venoms and toxins are also examined. # The practical course is provided to reinforce the lecture material, and to give hands-on experience in experiments that illustrate the basic concepts of the pharmacological

	concentration-response relationship, competitive antagonism and pharmacodynamic and pharmacokinetic principles.
Assessment:	Continuing assessment of practical and computer-aided learning work during the semester (20%).Mid-semester assessment (20%).A 2-hour written examination in the examination period (60%).This is a laboratory-based subject. Attendance and participation in 80% of the practicals is a hurdle requirement.
Prescribed Texts:	Course manual (provided)
Recommended Texts:	Although there are no prescribed textbooks for Pharmacology the following textbooks are recommended. All are available in the Brownless library. Howland: Pharmacology, 3rd edition. Lippincott, Williams and Wilkins Rang, Dale and Ritter, Pharmacology, 6th edition. Churchill Livingstone Katzung, Basic and Clinical Pharmacology, 10th edition. Appleton and Lange Golan, Principles of Pharmacology, (2nd edition). Lippincott, Williams and Wilkins. Neal, Medical Pharmacology at a Glance (5th edition). Blackwell. *(revision purposes)*
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # **Bachelor of Arts (https://handbook.unimelb.edu.au/view/2011/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2011/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2011/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2011/B-MUS)** You should visit **learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)** and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	By the end of this subject students should have: # an understanding of the scientific basis of the action of the drugs and developed skills in # experimental design and techniques # use of information technology resources for data analysis and interpretation. # critical thinking and problem solving # effective participation in small group work
Notes:	This subject is available to students enrolled in the BSc, Biomedicine degree. Special requirements: laboratory coat. Experiments involving the use of animals are an essential part of this subject; exemption is not possible.
Related Course(s):	Bachelor of Science
Related Majors/Minors/ Specialisations:	Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses