534-301 Cellular and Molecular Pharmacology

Credit Points:	25.00
Level:	3 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: 36 hours of lectures (three per week); 30 hours of practicals (one 5-hour practical every second week); six hours of workshops (one hour with each practical); three 3-hour CAL sessions Total Time Commitment: 120 hours
Prerequisites:	Pharmacology 534-201; exemption may be given at the discretion of the Head of Department. Physiology 536-201 and 536-211 and biochemistry 521-211 and 521-212 are highly recommended.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
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.
Coordinator:	Dr Michael Julian Lew
Subject Overview:	After completion of this subject students will have an understanding of pharmacological concepts and skills that will enhance their insight into biomedical sciences. Emphasis will be placed on the role of quantitative pharmacological analysis in the characterisation of biological systems. Topics covered include intercellular communication and signaling pathways, mechanisms of drug-receptor interactions, classification of drug receptors. The disposition of drugs in the body, drug administration, absorption and elimination, and genetically determined variability in drug action will be discussed. A major emphasis will be placed on the molecular nature and behaviour of receptors, and the exploitation of 'new biology' or biotechnology in the service of drug and receptor characterisation.
Objectives:	By the end of this subject a student will have: # knowledge of the actions of important drugs used clinically and in research; # understood how the actions of new drugs are characterised and how drugs can be used to investigate questions of biological processes and signaling; # an understanding of the process of drug discovery and development; # used modern molecular approaches to solving pharmacological problems, and obtained an appreciation of their application to specific biological problems; # applied laboratory techniques and analytical approaches in different areas of pharmacology including the analysis and interpretation of data derived from experiments; # gained experience in the written and oral presentation of scientific data and developed an appreciation of the scientific literature.
Assessment:	Ongoing assessment of practical work during the semester (24%); computer-assisted learning tests during the semester (6%); a 3-hour written examination in the examination period (70%).
Prescribed Texts:	None
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/2009/D09)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2009/F04)**

	# **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2009/A04)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2009/M05)** 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:	Students will gain skills in: # critical thinking and problem solving; # small group work; # information gathering and report writing; and # systematic evaluation of scientific evidence.
Notes:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject. This subject is likely to be quota-restricted this year. Formerly known as 534-301 Principles of Pharmacology. 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 Biomedical Science Bachelor of Engineering (Biomedical)Biocellular Graduate Diploma in Biotechnology
Related Majors/Minors/ Specialisations:	Pharmacology