606-309 Frontiers of Cell Biology

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. Lectures
Time Commitment:	Contact Hours: 36 lectures (three per week) Total Time Commitment: 120 hours total time commitment.
Prerequisites:	606-205 (prior to 2009) or 516-201 (prior to 2009) or *Comparative Animal Physiology* (formerly *Animal Physiology*) or *Biochemistry and Molecular Biology* (521-211 prior to 2009) BBiomedSc students: 521-213 (prior to 2009) Other combinations that provide a similar background will be considered by the coordinators.
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. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	Assoc Prof Ed Newbigin
Subject Overview:	This subject will bring students to the forefront of modern cell biology, and provide a broad overview of plant and animal cell biology. We expect that a student who completes this subject will understand the major questions of cell biology, the tools that are being used by cell biologists, how knowledge relates to experiment, how data in cell biology is interpreted and how cell biology is being used in pure and applied research. Topics to be covered include: # the importance and applications of cell biology; # regulation of cell phenotype, cell transformation; # recombinant protein technology; # plant and animal genetic manipulation; transgenesis; # molecular basis of cell interactions; applications of plant and animal cell culture; # human cloning, stem cells, gene therapy and cell transplantation; and # exploitation and commercialisation of cell biology, and ethical issues.
Objectives:	At the completion of this subject, students should have: # an advanced level of understanding of the ways in which phenotype can be manipulated to explore cell and organ function, and in biotechnology of plants and animals; # knowledge of the applications of cell biology in research, industry and human welfare, and policy and regulatory issues relevant to cell biology and biotechnology;

	# enhanced presentation skills; # developed problem-solving skills; # the ability to think critically, and organise knowledge from consideration of the lecture material; # learnt to adopt new ideas from participation in the lecture program; # the ability to present a rational summary of the scientific argument presented in the lecture series; and # the ability to present a well-organised and lucid argument.
Assessment:	A review essay of no more than 3000 words due during the semester (20%); written class tests during the semester (20%); a 3-hour written examination in the examination period (60%). Satisfactory completion of all assessment components is necessary to pass the subject.
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
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 is a joint botany, anatomy and cell biology and zoology subject.
Related Course(s):	Bachelor of Biomedical Science Graduate Diploma in Biotechnology
Related Majors/Minors/ Specialisations:	Biotechnology Botany Cell Biology Reproduction and Development