516-302 Developmental Biology

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 24 lectures (two a week) and 24 hours practical/tutorial (times to be arranged) Total Time Commitment: 120 hours
Prerequisites:	516-201, or Zoology 654-203, or Biochemistry 521-211 and 521-212.BBiomedSc students: 521-213 and 536-250. Zoology 654-304 and 654-313 and Anatomy 516-306 are 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. 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:	Dr G Hime, Dr M Familari
Subject Overview:	Upon completion of this subject, students should: # comprehend the molecular, biochemical and cellular events that regulate the development of specialised cells, tissues and organs during embryonic development, particularly cell signalling pathways that regulate embryonic induction, tissue interactions and pattern formation, and expression of regulatory genes; and # understand the experimental strategies and techniques that are used to identify the molecular and cellular mechanisms of development. The following topics are considered: mechanisms of cell determination and commitment; embryonic organiser; mesoderm induction; establishment of the vertebrate body plan; positional specification; tissue patterning; cell migration; epithelial-mesenchymal interactions; sex determination; developmental potency; growth control; cell and tissue transplantation; nuclear transplantation; cell ablation; cell lineage tracing; organogenesis in vitro; transgenesis; gene knockout; and developmental mutations.
Assessment:	Ongoing assessment on theory and practical work during the semester comprising a maximum of two 30-minute multiple choice quizzes (10%); two practical reports to be completed during the practical sessions (10%); one practical report of 1000 words due during the semester (10%); a 2-hour written examination during the examination period (70%).
Prescribed Texts:	Developmental Biology (S Gilbert), 7th edn, Sinauer Associates Inc., 2003
Breadth Options:	This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008. This subject or an equivalent will be available as breadth in the future. Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available. 2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees

Generic Skills:	Students should develop the following generic skills: # critical analysis of data; # ability to solve complex problems; # oral and written communication skills, including public speaking and summary reports of complex data; # teamwork skills in the analysis and interpretation of data; # working as a team to perform new experimental tasks; and # time management skills.
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 a joint anatomy and cell biology and zoology subject. This subject is likely to be quota-restricted this year.
Related Course(s):	Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Biomedical Science Bachelor of Science Graduate Diploma in Biotechnology