202-103 Biology for Land and Food Resources

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Summer Term, - Taught on campus.
Time Commitment:	Contact Hours: Thirty-six hours lectures, 36 hours of practicals/tutorials Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Dr Cas McLean
Subject Overview:	The subject introduces students to biological concepts and skills which will form the foundation of other 'biology-based subjects'. The subject covers areas including: # cell biology and metabolism: molecules of life - water, organic compounds, ions, polymers (proteins, nucleic acids, polysaccharides), supramolecular structures; organelles, membranes and walls; unicellular and multicellular organisms, cell division, mitosis; cell differentiation and specialisation; diversity and unity of cell structure, prokaryotes and eukaryotes; tissues and organs; major metabolic pathways, primary and secondary metabolism; enzymes; photosynthesis and photorespiration, chloroplasts, respiration, glycolysis, fermentation; # inheritance: protein synthesis and gene expression; brief description of DNA, RNA, the double helix, recombination and mutation; Mendelian genetics; # plant structure and function: roots, stems, leaves, meristems, flowers and seeds; plant cells and tissues, anatomical diversity; transpiration and translocation; nutrient uptake; primary and secondary growth; # animal structure and function: tissues, organs and organ systems; comparative anatomy; homeostasis; nutrient uptake, circulation, gas and fluid exchange; structure of selected invertebrate groups, especially insects; mammalian structures; differences between animal and plant anatomy; # reproduction and nutrition: heterotrophy and autotrophy; nutrients and nutrient cycling; productivity; gametogenesis - process and structures in plants and animals; fertilisation, seed development, germination, emergence; gestation, embryo development, parturition, hatching; life cycles; animal growth (briefly);

	# introduction to biodiversity and evolution: populations, communities and ecosystems; adaptation; phylogeny and evolution (brief introduction only); and # practicals: will emphasise the handling and identification of biological material and the use of microscopes and other instruments.
Assessment:	Mid-semester examination (20%), final examination (60%), practicals (20%). Pass in practical component required. Final examination (three hrs). Mid-semester test (two hrs).
Prescribed Texts:	None
Recommended Texts:	Recommended Texts: # **Biology** (R B Knox, P Y Ladiges, B K Evans and R Saint), McGraw Hill, 2001
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	Information Not Available
Related Course(s):	Bachelor of Agricultural Science/Bachelor of Commerce