

650-122 Genes and Environment

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus. Lectures, practicals, tutorials and computer workshops.
Time Commitment:	Contact Hours: 36 lectures (three per week), 30 hours of practical activities, pre-laboratory activities and computer workshops and ten 1-hour tutorial/workshop sessions Total Time Commitment: 120 hours (including non-contact time)
Prerequisites:	None
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:	Associate Professor Dawn Gleeson
Subject Overview:	Topics include the genetic consequence of meiosis; inheritance; chromosomes, genes/alleles, dominance relationships, autosomal/sex-linked inheritance; one locus, blood groups, pedigree analysis, examples of human genetic disease; more than one locus, gene interaction, linkage, multifactorial/quantitative inheritance, heritability; DNA structure and function, replication, transcription, translation, mutation; genes and development; tools used for molecular genetic analysis: restriction enzymes, PCR, gel electrophoresis, aims of the Human Genome Project; recombinant DNA technology; genes in populations; human diversity, polymorphisms, selection, the theory of evolution; generation of species; biodiversity and genetic resources; model systems for research in biomedicine; Monera: beneficial and harmful bacteria; viruses and infectious molecules; fungal pathogens and the role of fungi in medicine; evolution of primates and humans.
Assessment:	A multiple choice test held mid-semester (10%); work in practical classes during the semester, made up of written work not exceeding 1500 words, assessment of practical skills within the practical class, and no more than four short multiple choice tests (25%), completion of independent learning tasks (5%), a 3-hour written examination on theory and practical work in the examination period (60%). A pass in the practical work is necessary to pass the subject.
Prescribed Texts:	WK Purves, GH Orians, HC Heller and D Sadava, Life. 8th Ed. Sinaver/Freeman, 2007
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:	At the completion of this subject students should be able to: <ul style="list-style-type: none"> # plan effective work schedules to be prepared for tutorials, practical classes and examinations. # be familiar with electronic forms of communication and be discerning in the use of the web for seeking information. # integrate the computer software packages into the course to assist learning. # be able to complete basic manipulations with laboratory equipment, for example the microscope and gel electrophoresis. # develop skills in recording observations, analysis and interpretation of data

	<ul style="list-style-type: none"># develop basic skills in statistical analysis of genetic data.# access basic information from the library both electronically and in a traditional way.# begin to develop skills in working collaboratively with other students in a practical class.
Notes:	<p>This subject is only available to students enrolled in the Bachelor of Biomedicine.</p> <p>Experiments involving the use of animals are an essential part of this subject; exemption from these experiments is not possible.</p> <p>Required Equipment - Lab coat, dissection kit.</p> <p>Students are expected to enrol in both 650-121 Biomolecules & Cells and 650-122 Genes & Environment.</p>