

GENE30005 Human and Medical Genetics

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 3 x one hour lectures per week. Total Time Commitment: Estimated total time commitment of 120 hours
Prerequisites:	<u>652-214 Principles of Genetics (/view/2010/652-214)</u>
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:	Prof James Camakaris
Contact:	Email: j.camakaris@unimelb.edu.au (mailto:j.camakaris@unimelb.edu.au)
Subject Overview:	This subject focuses on several key areas in contemporary human genetics: mutation in humans and its molecular basis; polymorphisms; selection and its consequences; gene mapping; strategies for identifying genes which cause human disease; the molecular basis of genetic diseases; genetics of cancer and ageing; the Human Genome Project and its applications; screening for genetic diseases; genetic counselling, human cytogenetics and gene environment interactions. Ethical issues will be discussed in context in various sections of the course.
Objectives:	Upon completion of the subject, students should have: appreciated the importance of genes in influencing human health, disease and evolution; recognised ways in which environmental factors may modify the effects of genes; understood the basic techniques and concepts of molecular genetics and human genomics which permit findings at the DNA level to be related to phenotype; appreciated the ethical issues raised by the application of molecular techniques to human variation; developed skills in use and application of methods of gene mapping and linkage in humans.
Assessment:	One assignment (problem based) less than 1000 words due during semester (5%); two written tests during semester (each 7.5%); a 3-hour written examination in the examination period (80%)
Prescribed Texts:	None
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # <u>Bachelor of Arts</u> (https://handbook.unimelb.edu.au/view/2010/B-ARTS) # <u>Bachelor of Commerce</u> (https://handbook.unimelb.edu.au/view/2010/B-COM) # <u>Bachelor of Environments</u> (https://handbook.unimelb.edu.au/view/2010/B-ENVS) # <u>Bachelor of Music</u> (https://handbook.unimelb.edu.au/view/2010/B-MUS)

	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:	Completion of this subject is expected to enhance the generic skills of a student in: the ability to read relevant literature and be able to interpret this in order to answer detailed questions on both theory and methodology; the ability to understand how new scientific data relevant to the human condition is acquired and applied to old and new problems in society; an appreciation for how modern knowledge in human biology is relevant to an understanding of our past and future; the ability to use information technology to acquire relevant knowledge; the ability to think clearly about the application of scientific principles to the consideration of ethical issues.
Notes:	This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BAsC or a combined BSc course. This subject is available for credit in the Bachelor of Biomedicine. Previously known as 652-305 Human Genetics (prior to 2009).
Related Course(s):	Bachelor of Biomedical Science Bachelor of Science Graduate Diploma in Biotechnology
Related Majors/Minors/ Specialisations:	Biotechnology Biotechnology Genetics Genetics Genetics Molecular Biotechnology