

GENE20002 Genes and Genomes

Credit Points:	12.50
Level:	2 (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, 1 x one hour problem class per week. Total Time Commitment: Estimated total time commitment of 120 hours
Prerequisites:	Both # 650-141 Biology of Cells and Organisms (/view/2010/650-141) # 650-142 Genetics & the Evolution of Life (/view/2010/650-142)
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Bachelor of Biomedicine subject - 526-222 Molecular and Cellular Biomedicine (/view/2010/526-222)
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 Meryl Davis
Contact:	Email: m.davis@unimelb.edu.au (mailto:m.davis@unimelb.edu.au)
Subject Overview:	The subject emphasises the molecular basis of gene structure and expression in prokaryotes and eukaryotes; the processes of DNA replication, mutation and recombination; the methods used for gene isolation, analysis; and application to genetic problems, an introduction to the fundamental genetic principles underlying development and the molecular evolution of genes and genomes.
Objectives:	Completion of this subject is expected to enhance a student's: understanding of the molecular basis of gene structure, expression and regulation in prokaryotes and eukaryotes; understanding of DNA replication, recombination and mutagenesis; appreciation of the organization of genes and genomes in a variety of organisms and the nature of molecular evolution; skills in solving problems and analysing data using a molecular genetic approach.
Assessment:	A written class test held mid-semester (10%); two online assignments of equal value during the semester (15% in total); a 2-hour written examination in the examination period (75%)
Prescribed Texts:	A J Griffiths et al, Introduction to Genetic Analysis, 9th ed. W H Freeman and Co.
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/2010/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2010/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2010/B-ENVS) # Bachelor of Music (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 provide students with the following skills which are transferable to new settings even though they have been acquired in the context of studies in Genetics: understanding how cross-disciplinary approaches can yield fundamental scientific knowledge; critical thinking, problem-solving and analytical skills to solve new problems; development of hypotheses based on observations; planning effective work schedules to meet deadlines for assessable work and; group and collaborative interactions.
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. Both 652-214 Principles of Genetics (/view/2010/652-214) and either 652-215 Genes and Genomes or 526-222 Molecular and Cellular Biomedicine (/view/2010/526-222) are prerequisites for third year level genetics subjects.
Related Course(s):	Bachelor of Science Graduate Diploma in Biotechnology