GENE30004 Genetic Analysis

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: 1 x one hour lecture per week; 1 x one hour tutorial per week; 1 x three hour practical per week. Total Time Commitment: Estimated total time commitment of 120 hours
Prerequisites:	All three of # **652-216 Experiments in Genetics (/view/2010/652-216)** # **652-301 Evolutionary Genetics & Genomics (/view/2010/652-301)** # **652-302 Genes: Organisation and Function (/view/2010/652-302)** Bachelor of Biomedicine students: All three of # A second year level practical subject in science # **652-301 Evolutionary Genetics & Genomics (/view/2010/652-301)** # **652-302 Genes: Organisation and Function (/view/2010/652-302)**
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 Charles Robin
Contact:	**Email: crobin@unimelb.edu.au (mailto:crobin@unimelb.edu.au)**
Subject Overview:	The subject provides a capstone experience for students majoring in Genetics. It involves lectures and practical exercises which demonstrate advanced principles and techniques of genetic analysis from classical and population genetics to modern molecular technology. An emphasis is placed on student participation in experimental design and data analysis. Tutorials will be used to illustrate modern aspects of Genetics by the in-depth consideration of current publications in the field.
Objectives:	Upon completion of the subject, students should have: understood the application of genetic principles and different experimental designs in classical, molecular and genetic analysis; appreciated the advantages and disadvantages of these different designs; developed a detailed understanding of the techniques employed in experimental designs; experienced the use of particular laboratory techniques and analytical approaches in different areas of genetics; become proficient in the analysis and interpretation of data derived from their own experimentation and that of others; the use of bioinformatics to analyse complex genetic data; gained experience in the written and oral presentation of scientific data; and developed an appreciation of the scientific literature and how experimental results in Genetics are presented in publications.

Assessment:	Written assignments/problem solving tasks due during semester (40%); practical reports due during semester (30%); a 2 –hour written examination in the examination period (30%)
Prescribed Texts:	None
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 enhance the generic skills of a student in: the design and planning of work schedules to accomplish laboratory tasks; the ability to work collaboratively with others to accomplish common goals; the safe use of appropriate laboratory equipment and techniques for experiments; the assessment of data and its significance including statistical analysis and an ability to present data in the form of reports; the ability to communicate information both verbally and in writing; the application of computer technology for data retrieval, analysis and use of relevant information from the scientific literature; an appreciation of how modern science can be applied.
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. This subject is required for a Genetics major.
Related Course(s):	Bachelor of Science Graduate Diploma in Biotechnology
Related Majors/Minors/ Specialisations:	Biotechnology Biotechnology Genetics Genetics Genetics Molecular Biotechnology