GENE30004 Genetic Analysis

Credit Points: 12.50

Level: 3 (Undergraduate)

Dates & Locations:

2011, 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:

Subject	Study Period Commencement:	Credit Points:
GENE20003 Experiments in Genetics	Semester 1, Semester 2	12.50
GENE30001 Evolutionary Genetics and Genomics	Semester 1	12.50
GENE30002 Genes: Organisation and Function	Semester 1	12.50

Bachelor of Biomedicine students:

Both of:

Subject	Study Period Commencement:	Credit Points:
GENE30001 Evolutionary Genetics and Genomics	Semester 1	12.50
GENE30002 Genes: Organisation and Function	Semester 1	12.50

PLUS one of the following:

Subject	Study Period Commencement:	Credit Points:
GENE20003 Experiments in Genetics	Semester 1, Semester 2	12.50
BCMB20005 Techniques in Molecular Science	Semester 1, Semester 2	12.50
MIIM20003 Experimental Microbiology	Semester 1, Semester 2	12.50
MIIM20002 Microbes, Infections and Responses	Semester 2	12.50

Corequisites: None

Recommended Background Knowledge:

For Bachelor of Biomedicine students intending to complete a Genetics major.

Subject	Study Period Commencement:	Credit Points:
GENE20003 Experiments in Genetics	Semester 1, Semester 2	12.50

Non Allowed Subjects: None

Core Participation Requirements:

For the purposes of considering requests for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Overview, Objectives, 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 the Disability Liaison Unit: http://www.services.unimelb.edu.au/disability/
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/2011/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2011/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2011/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2011/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

Related Majors/Minors/ Specialisations:	Biotechnology (pre-2008 Bachelor of Science) Genetics Molecular Biotechnology (specialisation of Biotechnology major) Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses