GENE90019 Genes Molecules and Cells

Credit Points:	25
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 75 hours: 56 X 1 hour lectures, 10 x 1 hour problem classes, 3 x 3 hour practicals/CAL Total Time Commitment: 240 hours
Prerequisites:	None.
Corequisites:	This subject is only available to students enrolled in the bioinformatics stream of the MSc.
Recommended Background Knowledge:	None.
Non Allowed Subjects:	Students who have undertaken second year level subjects in Molecular and Cellular Biomedicine, or Principles of Genetics, or their equivalents are not permitted to undertake this subject.
Core Participation Requirements:	For the purposes of considering request 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 Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the 3 Disability Liaison Unit website : 4 http://www.services.unimelb.edu.au/disability/
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Subject Overview:	The subject introduces students to the molecular and cellular aspects of biological systems with particular emphasis on human biology. The course is arranged for students to generate an understanding of the molecular aspects of biology at the biomolecular, sub-cellular and cellular level. The genetic inheritance of traits is considered at the level of the individual and populations. This multi-disciplinary subject is co-taught by staff in the departments of Biochemistry and Molecular Biology and Genetics. There is particular emphasis on integration of these disciplines with students receiving both theoretical and practical knowledge of fundamental and frontier research and development in these areas. Students in the course will be extended through their participation in problem classes. They will write a major essay integrating the learnings with contemporary literature in the fields of genetics, molecular and cellular biology. Students will be mentored in this task by the course coordinator.
Objectives:	This multidisciplinary subject is expected to provide and understanding of: # the building blocks of life; # how the building blocks fit together in both prokaryotic and eukaryotic cells and biological systems;

Assessment:	2 hour exam (Week 8) – 30%2 hour exam (End of semester) – 30%5 problem sets – 15%Major essay (4000 words) – 25%
Prescribed Texts:	Alberts et al. (2008). Molecular Biology of the Cell, 5 th Edition. Garland Science Nelson D, Cox M, Lehninger Principles of Biochemistry, 5th edition Griffiths et al. (2005). Introduction to Genetic Analysis, 8th Edition. W.H. Freeman & Co.
Recommended Texts:	None.
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:	Completion of this subject is expected to provide students with the following skills and abilities: # to interpret scientific literature # to solve complex problems # to integrate knowledge across disciplines # to critically analyse scientific data # to evaluate and combine diverse inputs in the writing of a literature review